DEVELOPMENT AND VALIDATION OF THE SPORT CHARACTER SCALE

by

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ABSTRACT

A variety of qualitative and quantitative measures exist to measure character in sport. These measures, however, are characterized by numerous limitations. In order to address these shortcomings the purpose of this study was to: (a) develop measure of sport character based on the model of moral action and (b) validate the measure through examination of the relationships between character in sport and other psychological variables. Two preliminary phases and four studies were undertaken to address the study purposes. Item development and refinement occurred in the preliminary phases and was grounded in the model of moral action. Items targeting compassion, integrity, sportspersonship, and fairness were developed for the Sport Character Scale (SCS). In total 62 items were created. In study 1, the pilot study, the items were further clarified and refined by a representative sample of 50 Korean athletes. This resulted in two items being deleted. In study 2, Exploratory Factor Analysis (EFA) was conducted on responses from 332 Korean athletes (mean age = 19.86 years) participating in a variety (n = 31) of sports. Results of the EFA suggested that a five-factor, 27-item model best fit the data. The factors included Compassion, Fairness, Sportspersonship, Antisocial Attitude, and Integrity. In Study 3, a Confirmatory Factor Analysis was conducted on a unique sample of 322 Korean athletes. The validity of the five-factor solution was confirmed. Fit indices suggested a good fit. Lastly, in Study 4, the concurrent and

construct validity of the Sport Character Scale were examined. The SCS was related to the Multidimensional Sportspersonship Orientation Scale and two subscales of the Attitudes to Moral Decision-making in Youth Questionnaire providing support for concurrent validity. Construct validity was supported by significant relationships that emerged between the SCS and the Caring Climate Scale and the Perceived Motivational Climate in Sport Questionnaire. The SCS appears to measure unique characteristics of sport character in Korean athletes. It is possible to educate coaches, parents, and athletes about the importance of compassion, sportspersonship, fairness, and integrity. Moreover, the findings of this study can be used to inform coaching and parent education programs to optimize the sport participation of youth.

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CHAPTER I

INTRODUCTION

The concept that sport builds character is a popular belief in our society (Kavussanu & Roberts, 2001; Sage, 1990; Sage & Kavussanu, 2007). Sport is regarded as a vehicle for learning to cooperate with teammates, negotiate and provide solutions to moral conflicts, and learn virtues such as fairness, sportspersonship, team loyalty, teamwork, responsibility, and subordination for the greater good (Kleiber & Roberts, 1981). According to Arnold (1984), sport embodies freedom and equality because individuals choose freely to participate and the rules are designed to be applied to all the players. Players are aware that sport is rule-governed activity, and they commit themselves to follow the rules. In this sense, participants can build acceptance of responsibilities and self-respect through sport. Participants benefit from sport by learning to overcome obstacles, develop self-control, cooperate with teammates, and behave with virtues such as respect, honesty, fair play, and compassion (Smith & Bar-Eli, 2007). Due to these aspects, sport can theoretically be a setting in which people practice moral virtue and form and display positive character. Although some researchers maintain that sport builds character, others counter the claim and suggest that sport builds 'characters'. It is easy to find drug usage to enhance performance, antisocial behaviors, and cheating in the

sport situation (Bredemeier, 1994; Shields & Bredemeier, 1995). In addition, some make the critique that competition in sport reduces prosocial behavior (Kleiber & Roberts, 1981), increases antisocial behavior (Kohn, 1986), and an overemphasis on winning in competition generates moral problems (Orlick, 1990).

In sum, divergent views exist relative to sport and character development. On one hand, sport is viewed as a powerful vehicle for character development. On the other hand, sport is perceived as an impediment to the display of virtuous behavior in sport. Such discrepancy justifies a more detailed examination of the concept of character.

Defining Character in Sport

It is widely recognized that character is a complex, multifaceted concept. The term 'character' in sport is often used synonymously with morality in sport, sportspersonship, or fair play (Weiss, Smith, & Stuntz, 2008). According to Weiss et al. (2008), the word 'moral development' is rarely used in daily language because moral development in sport is more an academic term and instead people tend to use more common terms, such as sportspersonship, fair play, or character.

According to Rudd and Stoll (2004), there exists a discrepancy in how character is conceptualized. This notion is based on a view that the concept of character is classified by a social or moral perspective (Beller, 2002; Beller & Stoll, 1995). Athletes, coaches, sport administrators, and parents define the concept of character from a social perspective when they refer to values such as loyalty, dedication, sacrifice, teamwork, and good citizenship. Concurrently, sport scientists and sport philosophers continue to define

character from a moral perspective, which is regarded as the ability to consider a person's actions in relationship to moral values such as honesty, fairness, justice, and fair play (Camire & Trudel, 2010).

A number of studies in sport have conceptualized character from a moral perspective. For example, Arnold (1999) stated that moral character involves a life that complies with such virtues as justice, honesty, and compassion. Shields and Bredemeier (1995) described character in sport as the possession of personal virtues such as compassion, fairness, sportspersonship, and integrity. Recently, Doty (2005) defined character as behaviors that show respect and integrity in a sport setting.

In sum, sport character is comprised of a number of distinguishable components. Because every psychological quality, capacity, or process can influence a player's moral engagements and behavior, a complete list of sport character components is probably impossible. However, it is relatively easy to identify a number of clear and important components of character in sport contexts. In order to clarify the concept of character in sport, some main theoretical frameworks are considered.

Theoretical Perspectives of Character Development in Sport

Various theories have been proposed to explain moral development and behavior. The most prominent theories are social learning theory and structural developmental theory (Kavussanu, 2007; Weiss et al., 2008). According to social learning theory (Bandura, 1977), moral behavior is regarded as prosocial behaviors consistent with societal norms and conventions, such as responsibility, honesty, cooperation, and respect.

The social learning approach emphasizes behavioral outcomes. In contrast, according to structural developmental approaches, morality is defined as a concern for physical and psychological welfare of self and others (Kavussanu, 2007; Weiss et al., 2008). Structural developmental theory focuses on individuals' underlying reasoning or judgment processes associated with behaviors (Weiss et al., 2008).

One useful framework for investigating character issues in sport and the basis of this study is Shields and Bredemeier's (1995) 12-component model of moral action. Shields and Bredemeier (1995) have contributed greatly to the understanding of moral and character development in sport and physical activity. Their 12-component model of moral action is a structural developmental approach that is theoretically based on the work of Piaget (1923), Kohlberg (1981, 1984), and Haan (Haan, Aerts, & Cooper ,1985), and draws heavily from Rest's (1984, 1986, & 1994) four-component model of moral action (Shields & Bredemeier, 1995). Shields and Bredemeier (1995) applied Rest's model to sport and suggested that the same four processes operate in sport contexts. According to the 12-component model of moral action (Shields & Bredemeier, 1995), each of the four processes (interpretation, judgment, choice, and behavior) is influenced by three sources of influences, namely, contextual factors, personal competencies, and ego processing variables. These contextual factors and individual differences (i.e., personal competencies and ego processing) influence specific morality processes or interact to influence several processes.

In more detail, Shields and Bredemeier (1995) outlined several social contextual factors, which influence moral thoughts and behaviors in competitive sport contexts.

Contextual factors are the first source of influences and focus on those aspects of the environment that consistently and significantly affect moral action in sport and physical activity contexts. These aspects are related to situational ambiguity (i.e., time pressures, rules and norms, and the unobservable nature of motives), motivational climate or goal structure (i.e., cooperative or competitive structuring of the environment), moral atmosphere, domain reasoning cues (i.e., societal domain, moral domain), and power structures (e.g., leadership style). In particular, among the several contextual factors, moral atmosphere (i.e., prevailing team norms and coaching behaviors), and task-involving and ego-involving motivational climates are the two dominant factors that have received the most attention in previous research (e.g., Kavussanu, Roberts, & Ntoumanis, 2002; Kavussanu & Spray, 2006; Ommundsen, Roberts, Lemyre, & Treasure, 2003; Stephens, 2000).

Second, personal competence influences include cognitive and affective competencies that make moral action possible and are essential to fully understanding morality. These include such things as role-taking and perspective-taking abilities, moral reasoning, motivational orientation, self-regulation, and social problem skills. To date, moral reasoning, goal orientations and legitimacy beliefs are the prominent personal competencies (Kavussanu, 2007; Weiss et al., 2008).

Finally, ego processing factors, the third track of influences, are based on Haan's (1977) model of ego processing. Ego processes bifurcate into either coping processes or defending processes. Coping processes enable people to think clearly and coordinate

their feelings and ideals. In contrast, defending processes are used to distort reality in order to maintain a positive sense of self.

In sum, Shields and Bredemeier's 12-component model undergirds structural developmental research in sport and physical activity, provides a comprehensive view of character issues, and is the foundation of this study.

Measures of Character and Moral Development Research in Sport

From a methodological perspective, most previous studies have used measures that reflect various aspects related to character constructs in the sport field. The assessments measure moral functioning (e.g., Bredemeier, Weiss, Shields, & Cooper 1986; Gibbs, Basinger, & Fuller, 1992; Hahm, Beller, & Stoll, 1989; Lee, Whitehead, & Ntoumanis 2007; Rest, 1979, 1986; Stephens, Bredemeier, & Shields, 1997), sportspersonship orientations (Vallerand, Briere, Blanchard, & Provencher, 1997), prosocial and antisocial behavior (Kavussanu, Seal, & Phillips, 2006), moral disengagement (Boardley & Kavussanu, 2007), and attitudes toward moral decision-making (Lee et al., 2007). These questionnaires use either qualitative or quantitative methods.

There have been several well-known assessments used in the sport context to measure character issues: the Moral Judgment Interview (MJI; Colby et al., 1987), the Defining Issues Test (DIT; Rest, 1979, 1986), the Hahm-Beller Values Choice Inventory (HBVCI; Hahm et al., 1989), the Scale of Children's Action Tendencies in Sport (SCATS; Bredemeier, 1994), and the Judgments About Moral Behavior in Youth Sport

Questionnaire (JAMBYSQ; Stephens et al., 1997). These instruments consist of examples of dilemmas or common sport scenarios that arise in sport situations.

For example, Kohlberg's Moral Judgment Interview (MJI; Colby et al., 1987) is an instrument used to assess the participant's stage of moral development, consisting of three parallel forms. Each form includes three hypothetical moral dilemmas indicating a conflict between two moral values. The MJI asks participants to respond to several hypothetical dilemmas. After presenting each moral dilemma, the interviewer asks 9 to 12 standardized probe questions to elicit the participant's rationale for saying why some line of action was more morally justified than another. The MJI is lengthy to administer, requires trained interviewers and scorers, and is laborious to score.

Rest (1979, 1986) developed the Defining Issues Test (DIT) to assess moral reasoning maturity. The DIT is a multiple choice test with six hypothetical moral dilemmas. Each dilemma consists of a list of 12 items with short statements or questions that the participant is asked to rate in terms of importance in deciding the dilemma. Participants rank the four most important items at the end of each dilemma. When compared to the MJI, the DIT is easily administered and scored, but it still remains somewhat lengthy and cannot be used with those who have less than a 7^{th}-grade reading ability.

One of the more popular inventories, the Hahm-Beller Values Choice Inventory (HBVCI; Hahm et al., 1989) was designed to assess athletes' moral reasoning in sport situations. The HBVCI is composed of 21 common sport scenarios, each describing a behavior for which a moral rationale is provided. The moral issues within the scenarios

focus on justice, honesty, and responsibility. Participants are asked to respond on a 5-point Likert scale. The HBVCI assesses moral content related to sport ethics, but it does not reflect the processes of moral reasoning.

The Judgments About Moral Behavior in Youth Sport Questionnaire (JAMBYSQ) was developed to measure youth soccer players' attitudes towards three types of nonmoral behavior: cheating, aggression, and lying to officials. Specifically, the JAMBYSQ assesses four constructs, players' (a) self-described fair play action tendencies; (b) legitimacy judgments concerning unfair play; (c) developmentally influenced moral motives, as they relate to temptations to engage in unfair play; and, (d) perceptions of team norms pertaining to unfair play behavior. The assessment consists of three soccer scenarios and each scenario has six items. Each item is designed to tap the participant's judgment.

The very characteristic that make dilemma and scenario-based assessments valuable also limit their general usefulness. These assessments use dilemmas or scenarios to describe hypothetical situations taken from real sport contexts, but such specificity fails to account for the variety of sport situations in which issues related to character might arise. For example, scenarios in the JAMBYSQ only reflect soccer situations. In addition, in relation to Rest's theory and Shields and Bredemeier's model, these instruments do not reflect the processes of the moral action because they do not feature interactive relations between athletes' psychological processes and behaviors.

Recently, two types of methodologies have been used to assess constructs relevant to sport character: (a) observations or evaluations of behavior by researchers or other

knowledgeable observers (e.g., Bredemeier & Shields, 1984; Kavussanu et al., 2006; Sage & Kavussanu, 2007) and (b) paper-and-pencil measures to assess moral attitudes or moral behaviors (e.g., Boardley & Kavussanu, 2007; Doty, 2005; Kavussanu, 2006; Kleiber & Roberts, 1981; Knight & Kagen, 1977; Lee et al., 2007; Sage, Kavussanu, & Duda, 2006; Vallerand et al., 1997).

With respect to observed prosocial and antisocial behaviors, Sage and Kavussanu (2007) created 20 items to assess moral behavior, classified as prosocial and antisocial from a table soccer game, called foosball. The equipment used in this study was a soccer table and a video camera. The soccer table included 11 playing figures per team and two goals. Frequencies of prosocial and antisocial behavior were coded by observers through visual and auditory videotaped information from participants' two 10-minute games of table soccer. In another study, Kavussanu et al. (2006) generated 13 total items with three tapping prosocial behaviors and 10 that assessed antisocial behaviors. The items were created by video analysis through a total of 12 soccer games. However, these measures only indicate sport-specific contexts, making use in other sports difficult. Further, these observed measures focus on participants' behaviors without considering psychological processes.

There have been a number of paper-and-pencil measures to assess moral attitudes or moral behaviors. The Attitudes to Moral Decision-making in Youth Sport Questionnaire (AMDYSQ; Lee et al., 2007) is an assessment of attitudes towards moral decision making in youth sport. The AMDYSQ consists of a three-factor nine-item instrument assessing one prosocial (i.e., keeping winning in proportion) and two anti-

social attitudes (i.e., acceptance of cheating and acceptance of gamesmanship). However, the AMDYSQ focuses on social psychological approach without considering moral developmental approach. Furthermore, the AMDYSQ does not explain processes that behaviors in sport situations expose. In particular, the AMDYSQ has not been designed to address moral judgments.

One of the more well-known instruments developed from the social psychological perspective, the Multidimensional Sportspersonship Orientations Scale (MSOS), measures athletes' orientations on the five sportspersonship dimensions with 25 items. The five factors, each with five items, represent (a) commitment to participation, (b) respect for social conventions, (c) respect for rules and officials, (d) respect for opponents, and (e) a negative approach to participation. However, the work of Vallerand et al. on sportspersonship reflects dispositional tendencies toward behavior rather than actual behavior in sport situations (Kavussanu, 2006). That is, the MSOS assesses sport participants' attitudes or beliefs toward sport. In addition, compared to the concept of sport character defined by Shields and Bredemeier (1995), sportspersonship is just one part of sport character, namely, the third of the four components.

Doty (2005) developed an instrument to assess character through sport in cadets at the United States Military Academy (USMA). The assessment consists of 33 items with two factors, including respect and integrity. Doty's sport character assessment has several strengths: it appears to be valid and reliable. It is simple and clear with 33 one sentence items, thus making it a very pragmatic instrument in comparison to the measures consisting of dilemmas or scenarios in sport. However, their study and instrument was

based on the USMA program of developing leaders with character. In other words, the instrument is an adequate measure only for USMA cadets and may not be proper to use in sport research.

In summary, there have been numerous instruments to assess character issues. There are three clusters of measures and methods that researchers have developed and/or adapted to measure character issues in the sport domain. The first cluster consists of measures that utilize dilemmas or scenarios in sport. The second cluster centers on methods of assessing observed behavior. The final cluster comprises paper-and-pencil measures of assessing moral attitudes or behaviors. Each of these clusters of assessment methods and measures has strengths and weaknesses. Based on Shields and Bredemeier's 12-component model, the present study created a new instrument designed to assess multiple dimensions of character in the sport contexts.

Summary of Character Construct in Sport

There have been arguments for and against sport as a vehicle for developing character. Such discrepancy has stimulated researchers to initiate a detailed review of character in sport. According to Rest (1984), the inner processes that produce behaviors must be critically examined to understand moral behavior. Character involves an internal state, which is manifested in behavior (Shields & Bredemeier, 1995).

On the basis of Shields and Bredemeier's model, character in this study is defined as the possession of virtues associated with compassion, fairness, sportspersonship, and integrity in the sport context. Based on previous literature and theoretical consideration,

sport character will be classified into four subscales: compassion, fairness, sportspersonship, and integrity. These four virtues reflect Rest's (1984, 1994) moral action model extended to the sport situation.

First, compassion is the character virtue that corresponds to Process I of the moral action: interpreting the situation. Compassion is an ability to feel with others, reflecting the extensive use of empathy (Hoffman, 1990, 2000; Shields & Bredemeier, 1995). Second, fairness is the virtue that is connected to Process II of the moral action model: constructing a moral ideal. Fairness includes equal consideration and can develop through two component processes: encouraging an intrinsic value of the experience and promoting prosocial norms (Shields & Bredemeier, 1995). Third, sportspersonship is associated with Process III of the moral action model: selecting the moral value from among competing values. Sportspersonship involves good manners such as winning graciously, losing with dignity, and being polite to opponents and umpires (Shields & Bredemeier, 1995). Lastly, integrity is the character trait related to Process IV of the moral action model and is synonymous with behaviorally fulfilling intentions. Integrity, or implementing action, is a quality of character clearly relevant to sport experiences and is characterized by individuals acting on their own convictions, even if such action is negatively received by a coach, teammates, or fans (Shields & Bredemeier, 1995).

Problem Statement

Although studies on moral and character development and behavior in sport contexts have emerged using a variety of qualitative and quantitative measures, there are

certain limitations regarding the conceptualization of character as well as the structure of instruments on character in sport. First, there is no measure to reflect the combined concept of sport character, connecting internal decision-making processes and behavior. Second, little research has developed instruments to assess the multidimensional constructs of character in sport. This study has been designed to address these issues.

Purpose of Study

The purpose of this study was to: (a) create a measure to assess the multidimensional components of sport character; and, (b) validate the scale through examination of the relationships between character in sport and other psychological variables.

Research Questions

The following research questions were addressed by this study:

1. Can a reliable and valid measure of sport character be developed?
2. Is there evidence of criterion-related validity of the Sport Character Scale (SCS)?
3. Is there evidence of construct validity of the SCS?

Hypotheses

There were several hypotheses proposed for this study:

1. The Sport Character Scale (SCS) will consist of four factors based on Shields and Bredemeier's model.
2. As shown in Figure 1, there will be significant relationships among the four factors.
3. Criterion-related validity of the SCS will be supported by correlation analysis.
   a. Significant relationships with the Multidimensional Sportspersonship Orientation Scale will provide concurrent validity of the SCS.
   b. The SCS will be negatively related to the antisocial moral attitudes scale, providing evidence of concurrent validity.
4. Construct validity of the SCS will be supported by correlation analysis.
   a. The SCS will be significantly related to the Caring Climate Scale, providing evidence of construct-related validity.
   b. The SCS will be significantly related to the Perceived Motivational Climate Scale, providing evidence of construct-related validity.

Significance of Study

First, there is no consensus definition of character in sport and physical activity. By framing this study within the model of moral action there will be some measure of uniformity and consistency among the operational definition, theory, and measurement of character. Second, there is no combined assessment of character that taps both internal processes and behavior in the sport domain. This study will attempt to provide and test a reliable and valid measure of integrated character construct in sport. Third, little research

has explored the entire process of the model of moral action as outlined by Rest (1984) and Shields and Bredemeier (1995). This research examining a character scale in sport will provide a more complete picture of character to researchers and practitioners. Lastly, this research examines the relationships between motivational responses and character constructs. The results of this study will provide coaches and parents with valuable information about how to create an environment that will develop character in sport and the physical activity field.

Limitations

There were some limitations that could influence the results of this study:

1. Participants of this study were limited to high school athletes and university athletes located within South Korea. This may limit the generalizability of the results of the study.
2. Participants were selected using convenience sampling.
3. Variation may exist in types of sport. Variation may exist between individual sport and team sport.

Delimitations

1. Participants were high school and university athletes in Korea, ranging in age from 15 years and older.
2. The selection of participants was limited to one geographic region of South Korea, which limits the result's use in generalization.

3. Participants answered the surveys on a voluntary basis.

Assumptions

1. Participants understood and responded to the questionnaires with honesty and to the best of their ability.
2. Participants represented a normal population of high school and university athletes.
3. Participants were not influenced by the investigator or assistant.
4. Participants' responses were not influenced by their peers.

Definition of Terms

Antisocial behavior is defined as "behavior intended to harm or disadvantage another individual" (Kavussanu, 2006, p. 578).

Character is defined as "the possession of those personal qualities or virtues that facilitate the consistent display of moral action, and is described as four virtues: compassion, fairness, sportspersonship, and integrity" (Shields & Bredemeier, 1995, pp. 192-193).

Compassion involves empathy or a feeling with others (Shields & Bredemeier, 1995).

Fairness is explained by adhering to the rules of game and the spirit of the rules while competing (Shields & Bredemeier, 1995).

Integrity is the ability to maintain and act on one's morality and convictions (Shields & Bredemeier, 1995).

Moral character is defined as "the ability to act in compliance the universal moral values, of honesty, justice, and responsibility" (Rudd, 1998, p. 9).

Moral judgment refers to "the person's decision about what ought to be done" (Kavussanu, 2007, p. 267).

Moral reasoning refers to "the criteria that the person uses to form a moral judgment" (Kavussanu, 2007, p. 267).

Moral value involves "the relative worth placed on one's actions, motives, and intentions as they impinge on others, including honesty, justice, respect, and responsibility" Rudd, 1998, p. 10).

Prosocial behavior is defined as "behavior intended to help or benefit another" (Kavussanu, 2006, p. 578).

Social character refers to the ability to express social values such as loyalty, dedication, sacrifice, cooperation, teamwork, good citizenship, and so on (Sage, 1998; Rudd, 1998).

Social value refers to those values deemed by our society to be important, which include loyalty, dedication, sacrifice, cooperation, teamwork, good citizenship, and so on (Sage, 1998; Rudd, 1998).

Sportspersonship is one of the character traits associated with process 3 of the moral action model (selecting the moral value from among competing values), and involves knowing the rules and standards of behavior in sport (Shields & Bredemeier, 1995).

Structural developmental theory refers to "how individuals reason about or judge values and behavior" (Weiss & Smith, 2002, p. 247).

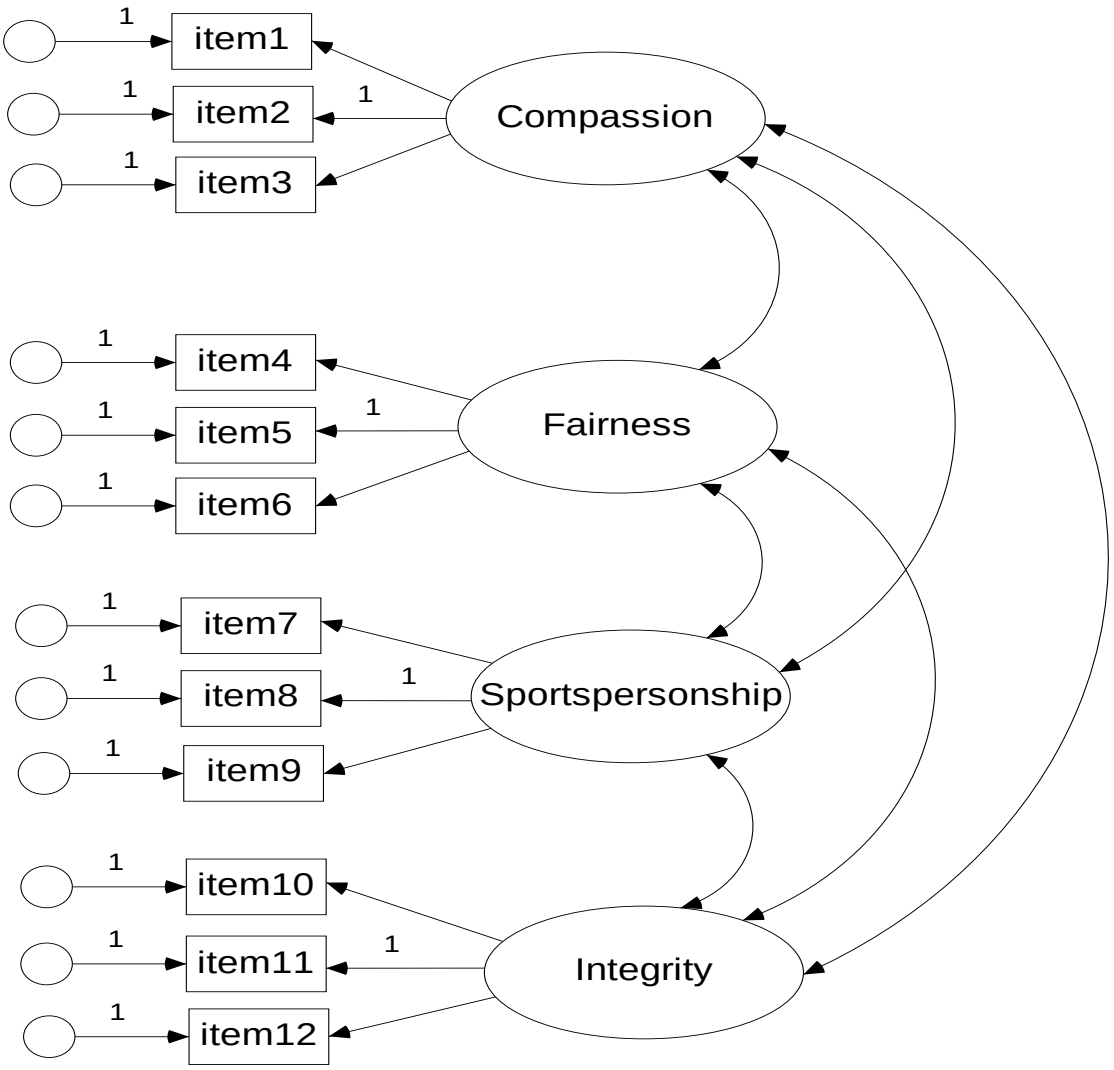

Figure 1. Hypothesized Four-factor CFA Model of the SCS

CHAPTER II

REVIEW OF LITERATURE

The purpose of the present study was to develop and validate a character scale in the sport domain. In the present chapter, literature related to character issues in sport was reviewed.

The Definition of Character

Due to the vagueness and complexity of the term 'character' (Hodge, 1988; Shields & Bredemeier, 1995), it has proved difficult to define. Thus, there is no consensus regarding the definition of character. For instance, "character is a complex, multidimensional construct composed of many personality traits which are mutually dependent and integrated and highly influences and conditioned by the culture in which one lives" (Shea, 1996, p. 181), and "character is having the wisdom to know what is right and having courage to do what is right" (Docheff, 1997, p. 34). In a conceptual analysis of character development in sport, Hodge (1988) identified theoretical and operational definitions of character: "Theoretically, character is defined as the coordination of those socioculturally conditioned traits prescribed within a given social grouping as being necessary for the effective functioning of both the individual and the

group. Operationally defined, character consists of moral reasoning, ego-identity, psychological maturity, and autonomy-assertiveness" (p. 72). As indicated above, researchers have identified that character contains multidimensional components.

Character as a Moral Perspective

Historically, theoretical backgrounds in empirical studies of character have been based on moral perspectives. According to Hogan (1973), character consists of five related dimensions: moral knowledge, socialization, empathy, autonomy, and moral judgment, labeled moral character. Hogan (1973) made an important distinction between moral knowledge and moral judgment, in that a person may possess knowledge of the proper response to a given situation, but needs empathy or autonomy to constitute proper moral judgment. However, as Hodge (1988) pointed out, Hogan did not provide specific theoretical relationships among aspects of character.

Whiteley (1982) defined character as a combination of two elements: moral reasoning and ego development. That is, "character is (a) the understanding of what is the right, fair or good thing to do in a given circumstance and (b) the courage to act in accordance with one's understanding of what is right, fair and good" (Whiteley, 1982, p. 14). Although Whiteley (1982) outlined these two factors of character as being mutually dependent and interrelated with each other, his definition of character was not described in detail.

A number of educators and researchers have recently been studying character in sport based on a moral perspective. Sport is a moral practice because it is played based

on written rules (Rudd, 1998). Thus, sport involves moral values such as respect, honesty, fairness, fair play, and responsibility.

The Definition of Sport Character

There have been multiple definitions cited for character in the sport context. Some researchers have classified character into two types: social and moral (Beller, 2002; Beller & Stoll, 1995; Rudd, 1998; Stoll & Beller, 1998). Social character refers to a set of social values such as loyalty, dedication, sacrifice, cooperation, teamwork, good citizenship, and so on (Lumpkin, Stoll, & Beller, 2002; Sage, 1998), whereas moral character is regarded as the ability to consider one's actions in relationship to moral values including honesty, fairness, fair play, justice, and responsibility (Beller, 2002; Rudd, 1998).

Regarding the moral aspect of sport, Doty (2005) defined character in sport as behaviors that show respect and integrity. Doty's character study is based on moral development theory by Piaget, Kohlberg, and Rest. Doty (2005) believed that the result of moral thought and moral emotion is moral behavior, or character. Shields and Bredememeier defined character as "the possession of those personal qualities or virtues that facilitate the consistent display of moral action" (1995, pp. 192-193). Accordingly, Shields and Bredemeier (1995) suggested a concept of character that links the four processes of Rest's (1984, 1986, & 1994) model of moral action with four corresponding virtues (Shields & Bredemeier, 1995): (a) interpreting the situation, related to

Compassion or empathy or an ability to feel with others; (b) constructing a moral judgment, related to Fairness or adherence to the rules of game and the spirit of the rules while competing; (c) selecting the moral value from among competing values, related to Sportspersonship or knowledge of the rules and standards of behavior in sport; and, (d) executing and implementing what one intends to do, related to Integrity, or the ability to maintain and act on one's morality and convictions.

In other words, moral character in sport involves the internal state, which is manifested in behavior (Shields & Bredemeier, 1995). The internal state guides decisions and behaviors while defining the qualities that consist of a person's nature (Marrella, 2009). In general, under the influence of situational and personal factors, individuals go through internal decision-making processes using cognitive and affective sources before displaying behaviors.

This study focused on the moral aspect of character based on Rest's (1984) four-component model and Shields and Bredemeier's (1995) 12-component model of moral action. That is, the main construct of this study, sport character, was defined as the possession of virtues associated with compassion, fairness, sportspersonship, and integrity as displayed in sport.

Theoretical Framework

For the purposes of this study, character development was based on moral development theory by Piaget, Kohlberg, and Rest, as reviewed below.

Kohlberg's Theory of Moral Development

Piaget (1932), pioneer of cognitive development, introduced a theory of moral development and Kohlberg (1981, 1984) has achieved the most theoretical and empirical work in this area. Kohlberg's study of morality paralleled Piaget's general approach in the following ways: first, like Piaget, Kohlberg focused on cognition, which is the thinking process by which people construct reality and meaning; second, they both assumed that there would be stage processes in the organization of moral judgment (Rest, 1994). In addition, according to Sapp (1986), Kohlberg's theory of moral development embraced Piaget's assumptions that cognitive development emphasized moral development and that justice was the only acceptable basis for moral reasoning.

Piaget (1932) identified a two-stage process of moral development: (a) the heteronomous stage where rules are viewed as sacred obligations that cannot be changed and actions are either right or wrong depending on the literal interpretation of the rule; and (b) the autonomous stage, which is characterized by the individual's ability to develop a more subjective sense of autonomy and reciprocity. Kohlberg extended Piaget's theory, offering that moral development is a continual process that occurs throughout the lifespan (Rich & DeVitis, 1994).

According to Kohlberg (1981, 1984), the six moral stages are classified into three developmental levels: preconventional (Stages 1 and 2), conventional (Stages 3 and 4), and postconventional (Stages 5 and 6): "The preconventional level is the level of most children under age 9, some adolescents, and many adolescent and adult criminal

offenders. The conventional level is the level of most adolescents and adults in American society and in most other societies. The postconventional level is reached by a minority of adults and usually only after the age of 20-25" (Colby & Kohlberg, 1987, p. 16). Kohlberg (1984) suggested that the three levels are each associated with three types of relationships between the self and society's rules and expectations. Kohlberg's six stages comprise a developmental sequence such that all people begin using Stage 1 reasoning, and then move to the next stage (Kohlberg, 1981, 1984; Rest, 1994).

At Stage 1 (heteronomous morality), a person is most impressed with the power of others, so the individual avoids breaking rules to avoid punishment. A person at Stage 2 (individualism, instrumental purpose, and exchange) realizes that all people have their own needs or interests, and this necessitates rules. Stage 3 (mutual interpersonal expectations, relationships, and interpersonal conformity) serves the need for the individual to be a good person in his/her own eyes and those of others. A person at Stage 4 (social system and conscience) fulfills the actual duties that a society has agreed on to keep it going and prevent a breakdown in the system. A person at Stage 5 (social contract or utility and individual rights) upholds a sense of obligation to law for the protection of all people's rights and values. At Stage 6, the individual follows self-chosen ethical principles that are universal principles of justice related to equality of human rights and respect for the dignity of human beings as individuals.

However, there have been criticisms of Kohlberg's theory of moral development. According to Gilligan (1982), Kohlberg's study was biased against women because his

research was done with white men and boys. Gilligan (1982) insisted that women's moral judgment differs from men, mentioning women are more likely to consider caring and responsibility in response to moral dilemmas, whereas men are more likely consider rules and justice. Second, Kohlberg's theory overemphasizes justice as the only aspect of moral reasoning (Rest, Narvaez, Bebeau, & Thomas, 1999; Sapp, 1986). This critique brings about a question, "Is justice the only aspect of moral reasoning people consider when making moral choices?" When people make moral judgments and choices, they likely consider many other factors such as caring (Gilligan, 1982), empathy (Hoffman, 2000), compassion (Shields & Bredemeier, 1995), and other interpersonal feelings. Third, Kohlberg does not view moral development in terms of behavior. That is, there is no clear statement as to whether moral reasoning leads to moral action or not.

Rest's Four Component Model

Rest's (1984, 1986, & 1994) four-component model has been formulated to indicate the major psychological processes determining moral behavior. Rest's view is that there are more components to morality than just moral judgment as indicated in Kohlberg's six stages of moral development (Rest, 1994). Thus, Rest's four-component model of morality describes the factors that influence the relationship between moral thoughts and behaviors. The four-component model begins with a question, "What must we suppose happens psychologically in order for moral behavior to take place?" (Rest,

1994, p. 23). The four major psychological components of moral behavior are (a) moral sensitivity, (b) moral judgment, (c) moral motivation, and (d) moral character (Rest, 1984, 1986, & 1994).

The first component, moral sensitivity, indicates interpreting the situation in terms of how a person's actions affect other people. The second component, moral judgment, is deciding which action is morally right or wrong among competing moral values. Moral motivation, the third component, is to select moral values among other competing values. The fourth component involves executing and implementing what a person intends to do, called moral character. Component 4 involves figuring out the sequence of behaviors, working out unexpected difficulties, overcoming fatigue and distractions, and persisting in tasks (Rest, 1986). Lack in any one component can cause moral failure (Rest, 1994). For example, if a person is easily distracted or discouraged, breaking down under pressure, even if the person has good moral sensitivity (component 1), makes great moral judgments (component 2), and chooses high moral values (component 3), the person is still regarded as having weak character, with an indication that moral failure occurred because of deficiency in component 4 (Rest, 1994).

Although the four processes are presented in a logical sequence, the four components are interactive and influenced by other factors, as well (Kavussanu & Ntoumanis, 2003; Shields & Bredemeier, 1995). For instance, the components were used both as dependent variables before and after a moral education program (Gibbons, Ebbeck, & Weiss, 1995), and as correlates of variables such as perceived social approval

of antisocial behaviors (Stuart & Ebbeck, 1995). Kavussanu and Roberts (2001) examined the role of achievement goals in three of the four components. The term "moral functioning" referred to three components, namely moral judgment, intention, and behavior. Kavussanu and Ntoumanis (2003) also extended previous work that identified relationships between sport involvement and various aspects of morality. Based on Rest's model (1984), they examined moral judgment, intention, and behavior as indices of moral functioning. For example, the process of making a moral decision is affected by social norms and motivational factors, whereas behavior is influenced by personal condition (e.g., fatigue or distraction) as well as other factors that physically prevent someone from executing a plan of action (Kavussanu & Roberts, 2001).

Rest's model suggests that multiple processes of morality are significant to the understanding of moral behavior. Moreover, his model allows researchers to consider cognitive-affective interactions within and among component processes, rather than divide cognition and affect. Sport studies based on Rest's model have identified moral judgment, intention, and behavior as indices of moral functioning (e.g., Kavussanu & Ntoumanis, 2003; Kavussanu & Roberts, 2001; Kavussanu et al., 2006; Romand, Pantaleon, & Cabagno, 2009). For example, Kavussanu and Roberts (2001) examined the role of achievement goals in three of the four components of Rest's model, namely moral judgment, intention, and behavior. This study revealed that high ego orientation corresponded to lower levels of moral judgment and intention in athletes, and greater acceptance of intentionally injurious acts.

In summary, Rest's four-component model focuses on the decision making process prior to executing moral behavior. Before taking action, for instance, individuals tend to go through psychological processes involving cognitive and affective factors. In addition, this model considers cognitive-affective interactions among four component processes, instead of separating cognition from affect.

A 12-Component Model of Moral Action

Shields and Bredemeier (1995) have suggested a 12-component model of moral action to provide more practical and comprehensive factors that influence moral behavior in sport and physical activity contexts (see Table 1). The model is based on the four processes addressed in Rest's four-component model. Shields and Bredemeier (1995) explain a moral action as the consequence of four interrelated processes. Simply, before a moral action can take place, a person must (a) interpret the situation and the action possibilities, (b) make a moral judgment about what should be done, (c) choose to act on a value (moral or nonmoral), and (d) carry out intended action to completed action (Shields & Bredemeier, 1995). The 12-component model of moral action (Shields & Bredemeier, 1995) addresses influences on the four components that Rest's model does not explicate; each of the four processes is described as being influenced by three sources of factors: (a) contextual factors, (b) personal competencies, and (c) ego processing variables.

As shown in Table 1, contextual factors, personal competencies, and ego processing influences may impact specific morality processes or may interact to impinge on several processes. To begin with, the contextual factors focus on those aspects of the environment that consistently and significantly influence moral action in sport and physical activity contexts (Shields & Bredemeier, 1995).

The contextual influences most associated with Process 1 (interpretation) are the degree of situational ambiguity and goal structure or motivational climate. Motivational climate is the prevailing situational goal structure created by significant others, such as teachers, parents, and coaches (Ames, 1992). In Process 2 (judgment), the salient contextual influence is moral atmosphere, which indicates prevailing moral norms recognized in a group, such as coaches' and team-mates' normative beliefs. In Process 3 (choice), the contextual influences are divided into three domain cues: moral, social-conventional, and prudential reasoning (Shields & Bredemeier, 1995). Sport has many moral domain cues, such as the presence of physical risk and the saliency of issues of fairness. As sports are multidimensional social contexts, they include many social-conventional domain cues (e.g., hierarchical organization and institutional roles and rules). In Process 4 (implementation), the main contextual influences are power structures (e.g., leadership styles). According to Shields and Bredemeier (1995), power structures play a significant role in determining how gender, ethnicity, social status, and class influence an individual's ability to execute an intended action.

In the next set of influences, personal competencies include the cognitive and

affective competencies that make moral action possible and are essential to more fully understanding morality. Role taking and perspective taking abilities are the main personal competency influences in Process 1. Perceptual role taking requires the ability to understand that others have visual fields different from one's own and then to comprehend the nature of these differences (Shields & Bredemeier, 1995). Social perspective taking is defined as how the individual differentiates one's perspective from other perspectives and relates these to one another (Selman, 1980). For example, when an individual wants to accurately interpret moral situations, she or he must be able to infer from relevant cues how the situation appears to others (role taking) and how these multiple views are related and coordinated (perspective taking).

In Process 2, the main competence is moral reasoning, which includes moral beliefs, attitudes, and values. This process reflects a person's moral stage and yields judgments that impinge on the production of moral action. The competence influence in Process 3 is the self-structure, indicating the person's organized perceptions and evaluations of self. The self-structure is a dynamic psychological organization that makes moral judgments and consists of two dimensions: motivational orientation and the moral self. According to Shields and Bredemeier (1995), motivational orientation refers to whether one is oriented primarily to demonstrate competence relative to others or relative to one's own performance; the moral self means the moral qualities that are used to define oneself. In Process 4, social-cognitive capacities play an important role in carrying out one's selected values. Psychological autonomy and social problem-solving

skills are critical competence influences that reflect social-cognitive capacities.

Finally, ego processing factors, based on Haan's (1977) model of ego processing, include 10 generic functions, each reflecting a process, function, or regulation that is required for constructive-integrative psychological activity (Shields & Bredemeier, 1995). Ego processes mediate and coordinate among psychological structures and between the psychological world and the environment (Bartek, Krebs, & Taylor, 1993; Haan et al., 1985; Shields & Bredemeier, 1995). Examples of ego-processes are empathy and the ability to focus attention. Thus, a number of variables have been proposed to influence each process.

Theory Related Research

A number of morality studies conducted in sport have been guided by the theoretical framework of Kohlberg and Rest. Based on Kohlberg's theory, several studies have examined moral reasoning as an indicator of moral development (Power, Higgins, & Kohlberg, 1989). In contrast, research based on Rest's theory has investigated multiple components of morality, including judgment, intention, and behavior (Kavussanu et al., 2002; Kavussanu & Spray, 2006). Shields and Bredemeier's 12-component model has played a significant role to connect numerous sport studies with morality.

For example, several studies have investigated perceptions of motivational climate in moral or character variables in sport (e.g., Kavussanu, 2006; Miller, Roberts, & Ommundsen, 2004; Ommundsen et al., 2003) and the relationship between moral

atmosphere and tendencies toward aggressive behavior in competitive sport (e.g., Kavussanu et al., 2002; Kavussanu & Spray, 2006; Stephens, 2000, 2001, 2004; Stephens & Bredemeier, 1996). For example, a perceived mastery climate (a task-involving climate) emerged as a positive predictor of prosocial behavior, whereas a perceived performance climate (an ego-involving climate) positively predicted antisocial behavior (Kavussanu, 2006). A mastery climate was positively related to sportspersonship orientations (Miller et al., 2004; Ommundsen et al., 2003). In addition, the moral atmosphere of the team indicated strong influence on athletes' moral functioning (Kavussanu et al., 2002; Kavussanu & Spray, 2006). Besides, the moral atmosphere of the team (e.g., athletes' perceptions of their team's proaggressive norms, their coach's goal orientation) was a significant influence on youth participants' beliefs about aggression and unsportsmanlike play (Stephens, 2000, 2001; Stephens & Bredemeier, 1996).

Other research has supported these findings on personal competence influences on moral or character issues in sport. For example, basketball players higher in ego orientation reported greater approval of unsportsmanlike play (Duda, Olson, & Templin, 1991) and aggressive acts (Duda et al., 1991; Kavussanu & Roberts, 2001). Ice hockey players higher in ego orientation were more likely to approve aggressive behaviors and less likely to show respect for rules and officials (Dunn & Causgrove-Dunn, 1999). In contrast, higher task orientation was associated with greater sportspersonship (Dunn & Causgrove-Dunn, 1999; Lemyre, Roberts, & Ommundsen, 2002).

In sum, according to Shields and Bredemeier's (1995) 12-component model of moral action, before the occurrence of a moral action a person must (a) interpret the situation, (b) decide on a course of moral action, (c) choose to act on a value, and (d) move from intended action into completed action. Each of the four processes is influenced by contextual factors, personal competencies, and ego-processing variables. The 12-component model of moral action is a useful framework for research on the relationship between the psychological world and behavior in sport and physical activity domains because of its internal-external approach.

Character and Moral Development Research in Sport Settings

Shields, Bredemeier, and their colleagues pioneered the field of character and moral development in sport domains. They have examined the relationship between sport participation and various perspectives of character or morality, such as moral reasoning, aggressive tendencies, and judgments. Eventually, they developed two methods to determine the relationship between sport participation and moral issues.

In a study exploring the relationship between athletic aggression and moral reasoning levels, Bredemeier and Shields (1984) used Rest's Defining Issues Test (DIT; 1979) to find that college basketball players' moral reasoning maturity was lower than that of college athletes' norms. In another work to investigate the relationship between sport participation and maturity of moral reasoning regarding general social problems and sport-specific dilemmas, Bredemeier and Shields (1986) extended the comparison of

athletes to nonathletes. They tested the moral reasoning maturity of male and female basketball players and non-athletes at both high school and college levels. Results revealed that athletes' moral reasoning was less mature than nonathletes' within the college sample. Also, females' moral reasoning at both high school and college levels was more mature than that of males in sport. However, there was no statistically significant difference between athletes and nonathletes at the high school level.

The second method to examine the relationship between sport participation and morality is to consider the interplay between sport involvement and sport character issues. According to Bredemeier, Weiss, Shields, and Cooper (1986), the extent of boys' involvement in high contact sports (e.g., football, wrestling, judo), and girls' involvement in medium contact sports (e.g., soccer, basketball) indicated less mature moral reasoning and greater aggressiveness in both sport and daily life. In another study, Bredemeier, Weiss, Shields, and Cooper (1987) found that boy's legitimacy judgments were significantly related to their moral reasoning, aggression tendencies, and involvement in high contact sports; extensive participation in high contact sports among boys corresponded to the judgment that aggressive behaviors in sport are legitimate.

Hahm (1989) investigated moral reasoning and development among general university students, students majoring in physical education, and student athletes in Korea and the United States. Two questionnaires in this study were used: the Defining Issues Test (DIT) and the Hahm-Beller Values Choice Inventory (HBVCI). Eighty-seven American students and 249 Korean students completed the DIT and 197 American

students and 283 Korean students completed the HBVCI. The results indicated that in both Korea and America, general students had significantly higher scores in moral reasoning and more principled moral thinking than physical education majors and student athletes.

Rudd (1998) conducted a study to more clearly define character and to measure character among nonathletes, team sport athletes, individual sport athletes, and military cadets. This research identified two types of character: moral and social character. Moral character was defined with the qualities of honesty, justice, and responsibility whereas social character was defined with the qualities of teamwork, loyalty, and self-sacrifice. The Rudd-Stoll-Beller-Hahm Value Judgment Inventory (RSBH-VJI) was developed to measure the two types of character. The outcome was that sport may build social character, but not moral character.

Stevenson (1998) developed the Stevenson-Stoll Social Resposibility Questionnaire (SSSRQ) to measure the cognitive moral judgments of collegiate student-athletes, and compared the moral judgments of 415 participants (202 general students and 213 student-athletes) at selected NCAA Division I institutions. The results indicated that males' cognitive moral judgment scores were overall lower than females', and team sport athletes' cognitive moral judgment scores were lower than nonathletes' or individual sport athletes' scores.

Proios (2010) developed and validated an instrument for the assessment of moral content judgments in sport called the Moral Content Judgment in Sport Questionnaire

(MCJSQ), a model with five factors: normative order, fairness, social consequences, harmony-serving consequences, and egoistic consequences. This study was designed to examine the predictive validity of the MCJSQ, the subscales of the MCJSQ showed significant correlations with task and ego orientation. Task orientation was positively related to the subscales of normative order, fairness, social consequences, and harmony-serving consequences. Ego orientation was positively associated with the subscale of egoistic consequences and negatively correlated with the dimensions of normative order, fairness, social consequences, and harmony-serving consequences. These findings are consistent with previous studies that identified the relationship between goal orientations and moral or character variables (e.g., Duda et al., 1991; Dunn & Causgrove-Dunn, 1999; Kavussanu, 2006; Kavussanu & Ntoumanis, 2003; Kavussanu & Roberts, 2001; Lemyre et al., 2002; Sage et al., 2006).

Duda et al. (1991) examined the association between goal orientations and sportsmanlike attitudes among high school basketball players using six scenarios depicting aggressive acts in basketball. Athletes high in ego orientation legitimated injuring opponents so that they missed a game or were out for the season and nonphysically intimidating the opponents.

Dunn and Causgrove-Dunn (1999) reported that elite male ice-hockey players higher in ego orientation were more likely to approve of intentionally injurious acts and less likely to show respect for rules and officials. Players higher in task orientation indicated greater respect for social conventions, rules, and officials. However, there was

no significant relationship between task orientation and legitimacy of injurious acts.

Kavussanu and Roberts (2001) examined the role of achievement goals in indices of moral functioning (i.e., moral judgment, intention, and behavior), unsportsmanlike attitudes, and judgments about the legitimacy of intentionally injurious acts among college basketball players. The outcomes indicated that college basketball players higher in ego orientation reported that intimidating opponents, risking injury to an opponent, and faking injury were appropriate behaviors and showed greater acceptance of intentionally injurious acts. In addition, male athletes revealed higher ego orientation, lower task orientation, lower levels of moral functioning, and greater approval of unsportsmanlike behaviors.

Lemyre et al. (2002) investigated the effects of achievement goal orientations and perceived sport ability on sportspersonship among competitive male youth soccer players. Findings revealed that highly task oriented players showed greater sportspersonship and ego-oriented players reported lower sportspersonship, including lower respect for social conventions, rules, officials, and opponents. This study also suggested that ego orientation may have a strong influence on antisocial beliefs.

Among 221 college athletes, Kavussanu and Ntoumanis (2003) found that direct effects of sport participation on moral functioning were not statistically significant when the variable of ego orientation was included as a mediator variable. This study also indicated that task orientation corresponded to high levels of moral functioning. Sage et al. (2006) examined the relationships of goal orientations and moral identity with

prosocial and antisocial judgments and behaviors among 210 football players. The results revealed that task orientation was a positive predictor of prosocial judgments. Ego orientation related positively to antisocial judgments and behaviors.

Measures in Character and Moral Development Research

The first job of researchers in the empirical validation of a theory is to develop methods to measure constructs (Rest, 1994). There have been numerous measures and methods that researchers have studied to assess moral functioning and character in sport and physical activity contexts.

The Moral Judgment Interview

Kohlberg developed his Moral Judgment Interview in 1958 to assess moral stage development (Colby & Kohlberg, 1987). Kohlberg's measure was modified over the years and its final version is called The Standard Issue Moral Judgment Interview (Colby & Kohlberg, 1987). The Moral Judgment Interview (MJI; Colby & Kohlberg, 1987; Colby et al., 1987) consists of three parallel forms, each comprising three hypothetical moral dilemmas, followed by 9 to 12 standardized probe questions designed to draw justifications, elaborations, and clarifications of the subject's moral judgments.

The MJI is administered as an oral, tape-recorded interview. To begin with, responses are transcribed and then the subject's responses are compared to examples and criteria in a scoring guide. The guide lists arguments at the various stages, and the

scorer's job is to match a subject's utterances with the criteria in the scoring guide. Over the course of a complete interview, typically about 50 matches are found between the subject's responses and the manual's examples. Each subject gains an overall stage score using summary rules. A typical interview lasts about 45 minutes, and scoring takes at least 30 minutes for a well-trained scorer. The scoring system of the MJI is detailed in an 800-plus page manual.

The MJI has proven to be a highly reliable instrument (Colby & Kohlberg, 1987; Colby et al., 1987), indicating great test-retest, interrater, and alternate form reliability (.96 to .99, .98, and .82 to .95, respectively) and internal consistency (Form A, .92; Form B, .96; and Form C, .94). With regard to validity, construct validity for the MJI is supported by a 20-year longitudinal study in 84 boys, including cross-cultural studies. However, the MJI has the practical limitations that considerable training is required for moral interviewing and scoring, and the procedure of interviewing and scoring is laborious and expensive.

The Defining Issues Test

Based on Kohlberg's moral developmental theory, Rest developed the Defining Issues Test (DIT; 1979, 1986), which has been used in numerous studies (Rest, 1979, 1986, & 1994), including a number of studies in the sport domain (Beller & Stoll, 1992; Bredemeier & Shields, 1984; Hahm, 1989). Whereas in the Moral Judgment Interview (MJI) procedure a trained rater analyzes a subject's interview responses, the DIT is a

multiple choice, paper-and-pencil test that can be group-administered and computer-scored. The DIT presents the subject with six hypothetical moral dilemmas (some of the same moral dilemmas in the MJI are used in the DIT), each consisting of 12 items that the subject is asked to rate on a 5-point scale for greatest concern in response to the dilemmas. Then, their task is to rank the four most important items for each dilemma. Most of the 72 items for the six stories included in the DIT represent reasoning designed to appeal to a particular stage of moral thinking. Other items are designed to catch attempts at a high score, making the DIT resistant to social desirability responding.

The DIT has been examined to have significant validity and reliability (Rest, 1986, 1994). Its test-retest correlations average in the .80's, and internal consistency scores of the instrument also average in the .80's. Longitudinal studies indicated that the DIT scores have positive correlations with age and educational experience and cross-cultural studies have further supported the instrument's reliability (Rest, 1994). Although the DIT is easily administered and scored, it is lengthy and difficult for children to read, requiring a significant attention span (Gibbs et al., 1992).

The Sociomoral Reflection Measure-Short Form

Gibbs designed the Sociomoral Reflection Measure-Short Form (SRM-SF; Gibbs et al., 1992) to assess the developmental status of moral judgment (Gibbs et al., 1992). The SRM-SF includes 11 items addressing sociomoral values. The respondents are asked to make a moral judgment and then to justify the importance of each value. The

justificatory responses are scored for stages of moral reasoning.

The SRM-SF has examined acceptable levels of reliability and validity in participants ranging in age from fourth graders through adults (Gibbs et al., 1992). The test-retest correlation for the entire sample (n = 384) was .88, and the internal consistency value was "great" (Cronbach's alpha = .92). Concurrent validity was examined between the SRM-SF and the MJI: the correlation was significant (r = .69). Convergent validity was shown through positive correlations among the theoretically relevant variables of age (r = .66), verbal intelligence (r = .49), and socioeconomic status (r = .20). The SRM-SF also demonstrated discriminant validity by showing a statistically nonsignificant correlation with a measure of social desirability; construct validity was supported by its discrimination among diverse age samples and between delinquent and nondelinquent adolescent males.

The Prosocial Play Behavior Inventory

The Prosocial Play Behavior Inventory (HPPBI; Horrocks, 1979) was developed for use at the upper elementary school level to assess prosocial rather than moral behavior thought. Horrocks believed that the two were correlated. The HPPBI contains 10 behavioral items, including arguing, showing off, complaining, teasing, sharing, disobeying rules, and so on. The observer rates each participant on each behavior using a 4-point Likert-type scale.

The study's ratings had moderate correlation with moral reasoning (r = .55),

evidencing moderate construct validity (Horrocks, 1979) and the checklist indicated a great level of reliability, with high internal consistency scores for two separate samples (.96 and .98). The HPPBI directly checks behavior, however, the moral meaning behind the rated behaviors is unclear because the observed behaviors are not asked for their own interpretations of their behaviors.

Hahm-Beller Values Choice Inventory

The Hahm-Beller Values Choice Inventory (HBVCI; Hahm et al., 1989) is the only inventory specific to the sport milieu, developed to evaluate moral reasoning based on three moral values: honesty, responsibility, and justice. The HBVCI is a self-administered, pencil-and-paper inventory consisting of 21 short common sport scenarios that participants are required to comment on based on a 5-point Likert scale (*strongly agree – strongly disagree*).

To date, the HBVCI has assessed over 40,000 individuals from the ninth grade through adult populations. Internal reliability coefficients ranged from .74 to .88. Concurrent validity was established by comparison with Rest's Defining Issues Test, with correlation at .82. The HBVCI has been translated into six different languages.

The Scale of Children's Action Tendencies in Sport

Bredemeier (1994) developed the Scale of Children's Action Tendencies in Sport (SCATS), a self-report instrument to assess children's behavioral responses to situations

of conflict in sport. The SCATS stories are set in game or sport contexts. The measure itself consists of 10 items divided into six physical and four nonphysical aggression subscales. Scoring the SCATS requires summing the number of times assertive, aggressive, and submissive alternatives are selected.

Using the KR-20 formula for dichotomous responses, the SCATS's internal consistency reliability within subscales was found adequate (Assertion = .68, Aggression = .85, and Submission = .66). Four psychologists and four physical educators identified each of the three action tendencies for face validity.

The Judgments About Moral Behavior in Youth Sport Questionnaire

The Judgments About Moral Behavior in Youth Sport Questionnaire (JAMBYSQ) (Stephens et al., 1997) was developed for use with upper elementary school girls participating in youth soccer. The JAMBYSQ is a multidimensional measure of moral functioning constructed to assess players' (a) self-described fair play action tendencies, (b) judgments concerning the legitimacy of unfair play, (c) developmentally influenced moral motives (as these relate to temptations toward unfair play), and (d) perceptions of team norms pertaining to unfair play behavior. The study consisted of three scenarios of unfair behavior in soccer: (a) lying to an official, (b) hurting an opponent to stop her from scoring, and (c) violating a critical game rule. Each scenario has six items, parallel in format and content.

Item 1 assesses the respondent's deontic judgment by asking the respondent

whether Sally should or should not use her hands to deflect the soccer ball. Item 2 taps one dimension of moral atmosphere by prompting an estimation of the number of teammates who realistically would engage in the unfair behavior. Items 3 and 6 ask for the respondent's self-described action tendencies. Finally, Items 4 and 5 assess dimensions of moral motivation. The JAMBYSQ showed good internal consistency and construct validity. However, the scenarios of the JAMBYSQ are only soccer specific, limiting its generalizability.

Sportspersonship Measures

Sportspersonship instruments are designed to provide a comprehensive view of respondents' prescriptive beliefs or attitudes toward sport (Bredemeier & Shields, 1998; Shields & Bredemeier, 1995). Past research on sportspersonship and moral behavior has been influenced by two theoretical perspectives: social learning theory and moral developmental theory (Weiss & Bredemeier, 1991). Social learning theory (Bandura, 1977) focuses on models and reinforcement as determinants of appropriate and inappropriate behaviors. The moral developmental approach emphasizes that moral reasoning, which grows through several levels of development, is the major determinant of behavior.

Vallerand and his colleagues have conducted a study to operationally define and measure sportspersonship (Vallerand, Deshaies, Cuerrier, Briere, & Pelletier, 1996). In the first phase of their study, 60 male and female athletes were asked to present their

definition of sportspersonship and to provide examples from various sport situations and behaviors. Twenty-one situations were identified to potentially indicate the meaning of sportspersonship, which were then presented to 1,056 French-Canadian athletes ranging in age from 10 to 18. A 21-item exploratory factor analysis suggested a five-factor model of sportspersonship. In the first dimension, athletes display full commitment toward sport participation by showing up and working hard during all practices and games and acknowledging one's mistakes, trying to improve. In the second, athletes respect social conventions found in sports such as shaking hands after a game, recognizing good performance by the opponent(s), and being a good loser. In the third, athletes emphasize respect and concern for the rules and officials, even when the official appears incompetent. In the fourth, athletes show true respect and concern for the opponent by lending one's equipment to the opponent, agreeing to play even if the opponent is late, and refusing to take advantage of an injured opponent. Finally, in the fifth, athletes have a negative approach toward sport, take a win-at-all-costs approach toward play, show a temper after a mistake, and compete for individual prizes and trophies.

This study is important because the findings provide a definition of sportspersonship that can be captured in a scale assessing individual differences or orientations (Vallerand et al., 1997). The multidimensional sportspersonship orientations scale (MSOS) was developed to operationalize a multidimensional definition of sportspersonship (Vallerand et al., 1997). The MSOS is based on sportspersonship as defined in the previous study (Vallerand et al., 1996) and serves to measure athletes'

orientations in the five sportspersonship dimensions. The psychometric properties of the MSOS were examined in two studies by phases.

To begin with, 20 items were prepared for each of the five dimensions. Two sport psychology researchers assessed the MSOS's preliminary version for content validity and subsequently modified these 20 items to 13 items for each of the five dimensions. Fifteen amateur athletes, ranging in age from 12 to 16 years, completed this refined version of the MSOS with 65 items. The 65-item MSOS was then administered to 132 athletes from various sport areas. The results from an exploratory factor analysis (where the best five items of each subscale were retained) led to a 25-item version of the MSOS.

The MSOS was then administered to a new sample of 362 athletes with a mean age of 14.40 years, selected from six sports: badminton, basketball, hockey, swimming, track and field, and volleyball. Confirmatory factor analysis found the five-factor model had an acceptable fit for the data; internal consistency was adequate with values ranging from .71 (the commitment subscale) to .86 (the social conventions subscale) except for the negative approach subscale, which had an alpha value of .54. Correlations among the five MSOS subscales supported the construct validity of the MSOS; in Study 2, test-retest reliability over a 5-week interval was assessed with 53 athletes from the same types of sports surveyed in the other studies (mean age = 14.8 years). The resulting correlations varied from .56 to .76, with a mean test-retest correlation of .67, evincing the reliability of the MSOS.

However, there are some limitations to the MSOS. First, the MSOS was validated

with specific athletes: young French-Canadian athletes from a limited number of sports. In order to generalize the concept of sportspersonship, other groups such as coaches, fans, parents, administrators, and so on (including other countries' populations) should be considered as samples. There was no study to examine a general consensus about the meaning of sportspersonship according to cultural values and behavioral norms. Second, the negative approach subscale revealed a low alpha value (.54), indicating that subscale's unacceptable reliability. These limitations can be interpreted as the difficulties of defining sportspersonship.

The Moral Disengagement in Sport Scale

The Moral Disengagement in Sport Scale (MDSS; Boardley & Kavussanu, 2007) is a sport-specific measure of moral disengagement developed in two studies. In Study 1, 59 items were developed and tested by 308 athletes from 5 team sports. In Study 2, a 6 factor, 32-item questionnaire was confirmed with 305 athletes from the same 5 sports.

The construct validity of the MDSS was examined through evidence for concurrent and convergent validity for the overall scale and support for the discriminant validity of some subscales. Concurrent validity was established by the strong correlation between sport moral disengagement and antisocial behavior (r = .60) and the moderate negative correlation between sport moral disengagement and prosocial behavior (r = -.34). Convergent validity of the MDSS was provided by a strong positive correlation between sport and societal moral disengagement. Also, discriminant validity of the

MDSS subscales was evidenced by the correlations among the factors representing the six subscales and the relationships between the six subscales and prosocial and antisocial behavior.

However, the MDSS only focuses on negative aspects of sport and does not consider internal procedures of behavior as displayed in sport.

The Attitudes to Moral Decision-making in Youth Sport Questionnaire

The Attitudes to Moral Decision-making in Youth Sport Questionnaire (AMDYSQ; Lee et al., 2007) was developed to assess attitudes toward moral decision-making in youth sport (as the title suggests) and described levels of ethical attitudes in young competitors. The AMDYSQ is a 3 factor, 18-item instrument assessing one prosocial (i.e., winning in proportion) and two antisocial attitudes (i.e., acceptance of cheating and acceptance of gamesmanship). The prosocial subscales of the MSOS indicated significant positive correlations with Keeping Winning in Proportion and significant negative correlations with Acceptance of Cheating and Acceptance of Gamesmanship, establishing concurrent validity (Vallerand et al., 1997).

The AMDYSQ assesses different facets of sportspersonship than the MSOS (Vallerand et al., 1997) in that it addresses both a prosocial and two antisocial attitudes (Lee et al., 2007). It also addresses different dimensions of moral attitudes than the JAMBYSQ (Stephens et al., 1997), even though both have the subscale of cheating in common.

The AMDYSQ is potentially valuable for the investigation of unexplored dimensions of moral attitudes in youth sport and appears to be a sound instrument. However, the AMDYSQ has not been designed to address moral judgments or moral atmosphere. In other words, the AMDYSQ takes a social psychological approach without considering the moral developmental approach. The AMDYSQ does not reflect decision-making processes for moral attitudes as generated in various sport contexts. Therefore, the AMDYSQ is deficient to represent sport character issues.

An Instrument to Measure Character in Sport at the U.S. Military Academy

Doty (2005) developed an instrument to measure character through the sport participation experience of cadets at the United States Military Academy (USMA). This assessment to measure sport character is a clearer, more direct, simplistic, and pragmatic alternative to the HBVCI (Hahm et al., 1989) and consists of 33 items with two factors (respect and integrity).

As mentioned above, the HBVCI is composed of 21 scenarios, which means it takes a long time to complete. Also, its long items tend to confuse some respondents, requiring rereading. However, Doty's instrument is composed of simple and clear, one-sentence items written at a 5th grade reading level, taking only about 8 minutes to complete. Results indicated evidence of reliability across the different samples and items, and evidence of convergent validity through correlations with the Rudd-Stoll-Beller-Hahm-Value Judgement Inventory (RSBH-VJI).

Although this instrument is psychometrically sound, respondent friendly, and measures some important behaviors that can be defined as character in sport, it has some limitations. Because this instrument was designed to measure character through sport in USMA cadets, it is doubted that it is adequate for use on general participants such as youth or college athletes. In addition, the concept of character in this study focused on behaviors that display respect and integrity in sport contexts. The question remains whether behaviors alone fully reflect sport character, without consideration of internal functions.

The Assessment of Moral Content Judgment in Sport

The Moral Content Judgment in Sport Questionnaire (MCJSQ; Proios, 2010) was developed to assess moral content judgments in sport and consists of a 24-item scale with five factors (normative order, fairness, egoistic consequences, social consequences, and harmony-serving consequences). In this study, moral judgment was defined as an individual's differentiation between ethical and unethical, right and wrong. The development of the MCJSQ items was based on the framework of cognitive-developmental theory.

The 293 athletes in this study participated in three questionnaires including the MCJSQ: the Task and Ego Orientation in Sports Questionnaire (TEOSQ; Duda & Nicholls, 1992) and the Multidimensional Sportspersonship Orientation Scale (MSOS; Vallerand et al., 1997). Factor analyses suggested a five-factor model to be an adequate

fit for the MCJSQ, and indicated high internal consistency in four factors and moderate consistency in one (normative order; $\alpha = .63$). This study also examined two subcomponents of criterion-related validity: predictive validity and concurrent validity.

Analysis of its predictive validity found that task orientation was a positive predictor of four components of moral content (normative order, fairness, social consequences, and harmony-serving consequences) and a negative predictor of the dimension of egoist consequences. Further, ego orientation was shown to be a positive predictor of the factor of egoist consequences and a negative predictor for the components of the four moral contents. The five factors of the MCJSQ revealed significant relationships with four subscales of the MSOS, evidence of the concurrent validity of the MCJSQ.

Though the MCJSQ is a reliable and valid measure of athletes' motives in decision making, the MCJSQ does not reflect combined processes, from interpreting situations to executing action. In terms of Rest's model, the items developed by the MCJSQ correspond to only the second process of Rest's model of moral action.

In sum, there have been numerous instruments to assess character issues. Each of these assessment methods and measures has strengths and weaknesses. Due to the deficiencies of previous measures of sport character, this study developed and validated a new instrument designed to assess multiple dimensions of character in the sport context, based on Shields and Bredemeier's 12-component model.

Table 1 12-Component Model of Moral Action

	Processes			
Influences	1. Interpretation	2. Judgment	3. Choice	4. Implementation
A. Contextual factors	Goal structure (motivational climate); situational ambiguity	Moral atmosphere	Domain cues	Power structure
B. Personal competencies	Role taking; perspective taking	Moral reasoning	Self-structure	Autonomy and social problem-solving skills
C. Ego processing	Intraceptive processes (e.g., tolerance of ambiguity, empathy)	Cognitive ego processes	Affective impulse-regulating processes	Attention-focusing processes

Adapted from Shields and Bredemeier, 1995, *Character development and physical activity* (Champaign, IL: Human Kinetics), 92.

CHAPTER III

METHODS

The purpose of this study was to develop and validate a character scale in the context of sport. This study consisted of two preliminary phases during which the sport character construct was specified and questionnaire items were developed. This was followed by four studies to examine the validity and reliability of the measure. Study 1, a pilot study, was conducted to determine if the initial items were appropriate for the participants. Exploratory and confirmatory factor analyses were explored in Studies 2 and 3, respectively to analyze the factor structure of the measure. Lastly, in Study 4 the construct and concurrent validity of the questionnaire was examined.

Phase I: Specifying the Domains of the Construct

The purpose of phase one of the study was to specify the definition and constructs of character in the sport domain. It is imperative that major concepts be defined clearly before generating a pool of items for a questionnaire (DeVellis, 2003; Streiner & Norman, 2003). This process allowed the researcher to delineate the sport character constructs based on a clear and succinct definition (DeVellis, 2003). Character does not have

physical properties, thus this study used four latent traits to make inferences and predictions about character in sport. For the purpose of this research, sport character was defined as the possession of the virtues associated with compassion, fairness, sportspersonship, and integrity in the sport context. These virtues represent the latent traits of sport character as articulated in Shields and Bredemeier's (1995) model of moral action. Therefore, based on previous literature and theoretical consideration, sport character in this study was conceptualized as having four constructs or subscales: compassion, fairness, sportspersonship, and integrity. These were operationally defined as follows. Compassion is the ability to feel with others and value sport participants. Fairness is adhering to the rules of game and the judgment that sport participants should be treated with equality according to the rules of the game. Sportspersonship is choosing to uphold standards of behavior in sport with an intense desire to win. Lastly, integrity is acting on one's morality and convictions in any given situation.

Phase II: Item Generation and Development

The second step in developing the sport character scale was to generate a pool of questionnaire items. Various theoretically and empirically based interpretations of the concept of sport character were reviewed and summarized in order to intellectually frame the construct.

Before generating items, a number of focus groups, including Korean high school and university athletes (total $n = 127$), were formed and asked to brainstorm synonyms

and sport-related terms and examples to accompany the definitions of compassion, fairness, sportspersonship, and integrity. A sample of example questions and answers of the focus groups are included in Table 2.

The responses from the focus groups were categorized based on the frequency of similar answers. Detailed domains branching out from each component were labeled. The category of compassion showed three detailed domains: (a) valuing participants (e.g., respecting others, caring for each other), (b) game manners (e.g., being courteous, shaking hands), and (c) verbal expression (e.g., encouraging opponents, genuinely congratulating the winner). Fairness included five detailed domains: (a) following the rules, (b) judging equally, (c) doing the best they can, (d) not cheating, and (e) accepting the outcome. Sportspersonship was categorized into six detailed domains: (a) doing the best they can, (b) following the rules, (c) game manners, (d) verbal expression, (e) expressing emotions, and (f) accepting the outcome. Last, integrity was classified into six detailed domains: (a) doing the best they can, (b) following the rules, (c) accepting the outcome, (d) complying with the referee's decision, (e) game manners, and (f) verbal expression.

Generating Initial Draft Items

Based on information from the focus groups, the literature, and discussions with experts in the sport field, 76 draft items for measuring sport character were generated. The content of each item was primarily intended to reflect the construct of sport character, including compassion (17 items), fairness (19 items), sportspersonship (19 items), and

integrity (21 items), respectively. The initial grouping of the items into separate categories was based on the item content and the definition of each construct.

According to DeVellis (2003), multiple items constitute a more reliable test than individual items and each item should be sensitive to the essence of the latent variable. However, it is impossible to specify the number of items that should be included in an initial pool (DeVellis, 2003). Ideally a set of items is chosen randomly from the large number of items to measure the construct of interest.

Regarding larger pools of initial items, DeVellis (2003), for example, suggested beginning with a pool of items three to four times larger than the final scale. Allen and Yen (1979) argued generating 1.5 to 3 times as many items as the final scale will include. Furthermore, if Likert scale items are used (e.g., the scale range is 1-5), 10 to 15 initial items per suspected subscale might be sufficient because such a number of items is more reliable (Nunnally & Bernstein, 1994).

Ultimately, item analysis determines the number of items needed to obtain acceptable reliability (Pett, Lackey, & Sullivan, 2003). Internal consistency is a function not only of how strongly the items correlate with one another, but also how many items there are in the scale (DeVellis, 2003). Although reasonable internal consistency reliabilities can be obtained with as few as three items, scales with few items may lack content, construct, and internal validity (Nunnally & Bernstein, 1994). Therefore, it is better to have a large pool of initial items because the size of the correlations among the items cannot be predicted in early phases of scale development.

The 76 initial draft items were written in both Korean and English. Initially, the items were generated in Korean and subsequently translated into English with discussions between the researcher and three Korean-Americans who were fluent in both Korean and English. One of the translators was a football athlete at a high school in Salt Lake County. The other two were college students who played on a high school tennis team in Salt Lake County.

Wording and Structuring of the Items

In addition to the quantity of items, it also is essential to write good items. According to Pett et al. (2003), there are many problems that can occur when writing items that can contribute to measurement error. In order to decrease measurement error, items should be stated as clearly and unambiguously as possible. In addition, the language should be simple, straightforward, and appropriate for the reading level of the respondents (Clark & Watson, 1995; Pett et al., 2003). Therefore, the goal of this step was to keep the items short, simple, easy to read, and constructed such that adolescents are able to understand them. Moreover, throughout the expert and student review processes, the researcher excluded items that were redundant, meaningless, or confusing.

Expert Review and Student Review: Content Validity

The 76 initial items of Sport Character Scale (SCS) were tested for content validity. Content validity involves item sampling adequacy regarding "the extent to

which a specific set of items reflects a content domain" (DeVellis, 2003, p. 49). To assess content validity, the preferred method is to employ a panel of experts in the field (Clark-Carter, 1997). In this study, the assessment of content validity for the generated items of SCS was conducted through a review by a panel of experts in the area of sport as well as a small representative group selected from the target population.

The items in English were reviewed by a panel of experts including two professors and four graduate students who had conducted research in sport and exercise psychology at the University of Utah. The items written in Korean were reviewed by Korean experts, consisting of three professors and two doctoral students who were experienced in scale development as well as two instructors who had played judo and golf. Additionally, seven Korean students who were competing in high school, college, and/or recreational levels in Utah were included for student review. These included five students recruited at the University of Utah and two students recruited from a high school in Salt Lake County. Three of seven were native English speakers and reviewed the initial items in English whereas the other four, who were Korean, reviewed the Korean items.

The review process included e-mails and face-to-face meetings with the experts and representative group. They were provided the questionnaire that included the construct name (e.g., sport character), the definition of the construct (e.g., compassion is empathy or a feeling with others) and subscales (e.g., compassion, fairness, sportspersonship, and integrity), and the items included in each subscale (see Appendices

A and B). The experts and representative group were asked to provide feedback, make suggestions, and rate each of the items in domains. In particular, each item was rated relative to its content and clarity on a five-point scale from 1 (*not clear*) to 5 (*very clear*).

Testing Equivalence of Items between Two Different Languages

The main purpose of developing the SCS was for it to be used in Korean sport settings with Korean athletes. Thus, the items had to be in Korean. The questionnaire was translated into English for the purpose of reporting. Furthermore, both English and Korean versions had to be examined for equivalence between the two languages.

Questionnaires in cross-cultural research should be equivalent in different languages (Hansen & Fouad, 1984). Applying a back-translation procedure among different languages is one method that can be used to assess the quality of the translation (Sinaiko & Brislin, 1973). In this study, a back-translation method was applied to assess the quality of translation between English and Korean.

The procedures undertaken for a back-translation were as follows: first, the initial items were translated from Korean into English by the investigator and three Korean-Americans who were fluent in both Korean and English; second, the translated items were back-translated into Korean by different individuals. The researcher, a Korean faculty member studying sport psychology, and a doctoral student who taught Korean classes at the University of Utah were included as the back-translation committee members.

The back-translation committee individually translated the items from English into Korean. After translating the items, the items were evaluated at a meeting with the back-translation committee. The translated items were compared and several items were corrected and modified to maximize clarity and simplicity.

Finally, in order to test the conceptual equivalence of the items written in two different languages, five individuals evaluated the items in Korean and the items translated into English for appropriate translation. To prevent any bias in this process, the five individuals were those who had not participated in the previous translation or back-translation process. They were all graduate school students; one masters student majoring in applied linguistics, two doctoral students majoring in sport science, and two doctoral students majoring in social science.

The five students were asked to rate the translation of each item on a four-point scale (1 = *absolutely different*, 2 = *different*, 3 = *the same*, and 4 = *absolutely the same*). The items with mean values greater than or equal to three were regarded as showing the same meaning between Korean and English version. Four items had a mean below 2, indicating differing opinions among five individuals. These items were reviewed for possible inclusion and modified in order to clarify the intended meaning in Korean. In this process, the evaluation of translated items focused on conceptual equivalence, cultural meaning, and specific content of the sport situation rather than a literal translation.

Item Revision

During the entire process of item development, the items were written and re-written as often as necessary to reflect critical feedback by the panel of experts and the small representative group. The suggestions from the experts who know the Korean language and are familiar with the culture of Korean sport and characteristics of Korean athletes were crucial in this study. Taking the expert feedback into account, a couple of items were reworded or modified for clarity and several items were eliminated due to the redundancy and ambiguity of the items. Consequently, 62 out of 76 items were retained for the subsequent analysis. More specifically, the 62 items retained through final revision process included 16 items for assessing compassion, 13 items for measuring fairness, 17 items for reflecting sportspersonship, and 16 items for measuring integrity.

Response Format

There are some issues to consider when determining a response option: the desired format of the items, need for variability of responses, number of response options desired, and reverse coding of some items (Pett et al., 2003). The two dominant response formats in assessment are dichotomous responding (e.g., 1 = *true*, 2 = *false* and 0 = *yes*, 1 = *no*) and continuous scales with three or more options (e.g., a 5-point Likert-type scale that ranges from 1 = *very much* to 5 = *not at all*) (Clark & Watson, 1995). Likert-type scales are used with a number of different response formats, such as frequency (*never* to

always), degree or extent (*not at all* to *very much*), similarity (*like me* to *not like me*), and agreement (*strongly agree* to *strongly disagree*) formats.

Regarding item variability, if the items in an instrument do not have variability of response, inter-item correlations would be restricted and weak. Thus, a sufficient range of responses is important in item development. A significant source for obtaining variability of responses is the number of response options available to the participants (Pett et al., 2003). In the case of Likert scaling, the number of scale steps generally recommended is five to seven (Sudman & Bradburn, 1982). An odd number (typically, five or seven) allows for the midrange scale to be the neutral or indifferent point. Meanwhile, an even number of response options (typically, six) eliminates the problem of an odd number (uncertainty) but forces respondents to either agree or disagree to some extent (Clark & Watson, 1995; Pett et al., 2003).

A six-point Likert-type scale in this study was selected for obtaining optimal conditions of reliability and validity. All responses ranged from 1 (*strongly disagree*) to 6 (*strongly agree*). By eliminating a neutral option of items, participants could be encouraged to think more carefully and thoroughly about each item. This might lead to maximum precision in respondents' answers.

Foil Items

Three foil items were written and randomly placed within the generated items. Foil items are statements commonly known to be incorrect that can be identified

immediately by a respondent who completes the scale carefully (Chen, 1998). The purpose of foil items is to identify those participants who do not complete the scale carefully (Chen, 1998). The respondents with a mean greater than two on three foil items were eliminated from data entry because a mean greater than two indicates that the participants did not carefully respond to the items. The three foil items used in this study were as follows:

1. Basketball is a non-contact sport like swimming.
2. The shape of a soccer ball is rectangular.
3. The shape of a basketball is a triangle.

Study 1: Pilot Study

Pilot tests of a newly developed instrument should be conducted with respondents selected from the same population from which the participants in the original study will be selected (Lackey & Wingate, 1998). Participants involved in the pilot study should not be contained in the original study. Additionally, the sample for a pilot study of an instrument is recommended to be one tenth the size of the sample for the primary study (Pett et al., 2003). Pilot testing an instrument allows researchers to identify items that are misunderstood or are not being answered in the way that researchers want (Pett et al., 2003). Based on these recommendations, a pilot study was performed to examine the reliability of the initial questionnaire and to filter out the poor items.

Using Respondents Similar to the Target Group

A convenience sample of 50 athletes (31 males and 19 females) in Korea was surveyed for the pilot study. The sample consisted of high school athletes (n = 23) and university athletes (n = 27), ranging from 16 to 25 years (M age = 18.96, SD = 2.60). The athletes represented a variety of sports, including baseball (n = 16), soccer (n = 3), judo (n = 3), golf (n = 8), tennis (n = 4), taekwando (n = 2), archery (n = 2), handball (n = 2), and others (n = 10). The athletes were quite experienced in their sport (M = 6.02 total years played, SD = 2.46).

The questionnaire for the pilot test contained demographic information and a total of 65 items. The 65 items to assess sport character contained 16 items on Compassion, 13 items on Fairness, 17 items on Sportspersonship, 16 items on Integrity, and 3 foil items. Descriptive statistics (mean, variance, and standard deviation) and reliability estimates (Cronbach's alpha and item-to-total correlation) were utilized to evaluate the quality of items from the initial survey questionnaire.

In order to evaluate the items in scale development, item-total correlations, item variances, and item means are generally used to detect certain characteristics of the items and construct (DeVellis, 2003). It is not desirable to include items if the variance is close to zero or the mean of an item is near one of the extreme scores of the range (DeVellis, 2003). In addition, items indicating low item-total correlations (r < .4) with other items in a scale should be removed from the item pool (Blunch, 2008). The item-total

correlation refers to the correlation between the given item and the total scale score without the given item from the total score (Pett et al., 2003).

Study 2, 3, and 4: Validation of the Sport Character Scale

The purpose of these studies was to validate the items of the Sport Character Scale.

Participants

According to Tabachnick and Fidell (2007), at least 300 cases are needed for factor analysis. Hair and colleagues suggest a sample size of at least five times the number of tested items (Hair, Anderson, Tatham, & Black, 1998). Thus, the sample size should be quite large and is influenced by the number of items that are included in the measure.

A convenience sample of 734 athletes in Korea was recruited for the main study. Participants were from 13 institutions (seven high schools and six universities) in Korea. However, 49 respondents reported a mean greater than two on the three foil items and were removed from the total sample of 734, leaving 685 participants.

The final sample included 685 athletes, ranging from 15 to 41 years (*M* age = 19.86, *SD* = 2.50). More men (*n* = 477) participated in the study than women (*n* = 208). Further, the sample consisted of high school athletes (*n* = 291) and university athletes (*n*

= 394) (see Table 3). The athletes represented 31 sports (see Table 4) and the average years played in their sport was 6.42 years (*SD* = 2.93), ranging from one to 16 years.

Procedure for Data Collection

Permission to recruit participants in the study was obtained from the athletic program directors and coaches of six high schools, one college, and five universities in Korea. Each Korean Institution submitted a letter indicating its approval of the research. After obtaining approval from the University of Utah's Institutional Review Board (IRB) for Human Subjects Research, the investigator contacted the athletic director and coaches at each institution to schedule a visit to collect data. Upon receiving permission, the researcher met the athletes to explain the study and ask for volunteers to participate.

At an initial meeting with athletes under the age of 18 (during a regularly scheduled class or practice time), the investigator explained the study, and distributed parental permission forms. The researcher returned a few days later, collected the parental permission forms, and asked the athletes to sign the informed consent if they so desired. Only those athletes who had both forms completed participated in this study. Meanwhile, at a meeting with athletes 18 years and older, athletes were asked to sign and return the consent form to the researcher with the survey. Prior to asking for the athletes' consent, the researcher provided the purpose and procedures of the study.

Questionnaire packets were handed out to participating athletes. No coaches were allowed in the room during data collection to provide a more comfortable atmosphere for

more honest answers. Participants were informed that their responses would be both anonymous and confidential. They were encouraged to ask any questions that arose during the collection process and instructed that they might choose to skip any questions they did not want to answer. The total time taken to complete the questionnaires was approximately 15 to 20 minutes.

Measures

Demographic information including age, gender, type of sport enrolled in, and year in school were collected to describe the personal characteristics of the athletes. The newly developed Sport Character Scale (SCS), with a 6-point Likert-type Scale (1 = *strongly disagree*; 6 = *strongly agree*), was used to measure athletes' character in a sport context. In order to address the validity of the SCS (Study 4), additional measures including the Caring Climate Scale (CCS, Newton et al., 2007), the Perceived Motivational Climate in Sport Questionnaire (PMCSQ; Walling, Duda, & Chi, 1993), the Multidimensional Sportspersonship Orientation Scale (MSOS; Vallerand et al., 1997), and the Attitudes to Moral Decision-making in Youth Questionnaire (AMDYSQ; Lee et al., 2007) were administered.

Like the SCS, all of the questionnaires used in this study were translated into Korean for Korean athletes. The questionnaires translated into Korean were reviewed for validation by a panel of experts: three Koreans, including one faculty member who has expertise in sport psychology, a master student majoring in applied linguistics, and a

doctoral student majoring in sport psychology. To begin with, the researcher and two Korean-Americans who were fluent in both Korean and English translated the English version of the instruments into Korean. After completing translation, both the questionnaires including the original English version and the translated version in Korean were reviewed by three Korean experts. During this process, the translated Korean version of the questionnaires was modified to reflect conceptual equivalence with the original English version while remaining sensitive to the Korean culture. Some ambiguous items were revised after discussing with a panel of experts.

Perceived motivational climate. The Perceived Motivational Climate in Sport Questionnaire (PMCSQ; Walling et al., 1993) was used to examine construct validity with the SCS. The PMCSQ assesses players' perceptions of the motivational climate on their team and consists of 21 items that measure mastery (9 items) and performance climate (12 items). The stem for each item is "On my team…" Examples of items tapping a perceived mastery climate included "trying hard is rewarded" and "the focus is to improve each game." Examples of items indicating a perceived performance climate included "players feel good when they do better than their teammates" and "players are punished when they make mistakes." Participants were asked to respond using a 5-point Likert response scale (1 = *strongly disagree*; 5 = *strongly agree*). Subscale scores were created by calculating the mean of item scores within the respective climate dimensions. The PMCSQ has been shown to be valid and reliable with youth athletes (Walling et al.,

1993). In the present study, the alpha coefficients were .74 and .75 for performance and mastery climates, respectively.

Caring climate. The Caring Climate Scale (CCS; Newton et al., 2007) is a 13-item questionnaire that assesses the extent to which the respondents feel the social and interpersonal context is caring. The participants responded to items on a 5-point Likert scale. The CCS has exhibited high internal consistency with a Cronbach alpha coefficient of .92 and strong convergent and discriminate validity (Newton et al., 2007). In the current study, this measure was used to examine construct validity with the SCS and its Cronbach alpha coefficient was .93.

Sportspersonship. The Multidimensional Sportspersonship Orientation Scale (MSOS; Vallerand et al., 1997) was used in this study to evaluate concurrent validity with the SCS. The MSOS is a 25-item inventory consisting of five subscales to assess sportspersonship: (a) respect for social conventions of sport (e.g., I shake the opponent's hand after a game regardless if we have lost or win); (b) respect for rules and officials (e.g., I respect the rules); (c) respect and concern for the opponent (e.g., When an opponent gets hurt, I ask the official to stop the game so that he/she can be helped); (d) respect for one's commitment toward participation in sport (e.g., It is very important for me to be at every practice); and, (e) negative approach toward the practice of sport (e.g., After competition, I make excuses for a poor performance). All responses were made on a 5-point scale ranging from 1 (*doesn't correspond to me at all*) to 5 (*corresponds to me exactly*). The reliability of the MSOS has been supported (Vallerand et al., 1997). In the

present study, the alpha coefficients for the five dimensions of the MSOS were α = .65 for social conventions, α = .72 for rules and officials, α = .83 for commitment to sport, α = .64 for respect for opponent, and α = .45 for negative approach to sport. The low level of internal consistency on the negative approach subscale has also been reported in previous research (Proios, 2010; Vallerand et al., 1997). Thus, the negative approach subscale was excluded from subsequent analysis.

Antisocial moral attitudes. Two subscales of the Attitudes to Moral Decision-making in Youth Questionnaire (AMDYSQ; Lee et al., 2007) were used to assess the participants' antisocial moral attitudes (i.e., acceptance of cheating and acceptance of gamesmanship) with 6 items. This measure was utilized to evaluate concurrent validity with the SCS. An example item for the subscale of acceptance of cheating is "If other people are cheating, I think I can too", whereas an example item for the subscale of acceptance of gamesmanship is "I sometimes try to wind up the opposition." Participants were asked to respond to the items on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The AMDYSQ has adequate concurrent validity, factorial validity, and internal consistency (Lee et al., 2007). In the present study, the alpha coefficients were .88 and .82 for acceptance of cheating and acceptance of gamesmanship, respectively.

Data Analysis

The data collected from the survey were analyzed by using the SPSS 18.0 and AMOS 18.0 version. Descriptive statistics, correlation analysis, reliability analysis, exploratory factor analysis, and confirmatory factor analysis were conducted to analyze the data.

Descriptive statistics. Descriptive statistics including the mean, standard deviation, range, skewness, and kurtosis were used to describe each item of the Sport Character Scale and to assess missing data, outliers, and normality.

Exploratory factor analysis. The primary purpose of Study 2 was to examine the factor structure underlying the items. Exploratory Factor Analysis (EFA) was used for exploring the underlying dimensions of the construct of interest (Pett et al., 2003). Thus, EFA was conducted to determine how many latent variables underlie the set of items contained in the SCS and create appropriate factors. A number of extraction and rotation methods were performed to determine the most appropriate factor solution.

In the SPSS package, numerous methods for factor extraction and rotation are available. Among the extraction techniques, PCA and PAF are the most commonly used (Tabachnick & Fidell, 2007). After extraction, rotation is used to improve the interpretability and scientific utility of a particular solution (Tabachnick & Fidell, 2007). The researcher must decide between orthogonal and oblique rotations. Orthogonal rotations such as varimax, quartimax, and equamax assume that the factors are uncorrelated, whereas oblique rotations such as direct oblimin, promax, and procrustes

offer a continuous range of correlations between factors (Pett et al., 2003; Tabachnick & Fidell, 2007).

Criteria used to identify the correct number of factors in this study were as follows: (a) the Kaiser-Guttman rule: retaining only those factors for which the eigenvalues are greater than 1.00; (b) scree test, a graphical method for determining the number of components; and (c) a Parallel Analysis (PA), comparing the obtained eigenvalues from the actual data with those one would expect to obtain from a random data set. Of these, the PA approach is considered one of the most accurate methods in research for deciding the appropriate number of factors to retain (Fabrigar, Wegener, MacCullum, & Strahan, 1999; Hayton, Allen, & Scarpello, 2004). A number of studies have shown that the PA approach is better than Kaiser-Guttman rule or scree test as factor retention approach. Specifically, the Kaiser-Guttman approach tends to over-factor, that is, encourages the selection of too many factors (Fabrigar et al., 1999; Zwick & Velicer, 1986). The scree test is open to subjectivity and ambiguity, especially when there are either no clear breaks or two or more apparent breaks (Hayton et al., 2004) in the plot.

In addition, factor loadings and factor interpretability were used as criteria for item reduction. Factor loadings greater than |.30| are considered to meet the minimal level, factor loadings of |.40| are regarded as more important, and factor loadings of |.50| or greater are considered practically significant (Hair et al., 1998). The generally acceptable reliability value is above .70 (Nunnally, 1978). In this study, items having a

factor loading less than .40 and high loadings on more than one factor were deleted from the item pool.

Confirmatory factor analysis. Confirmatory Factor Analysis was used in Study 3 to confirm that factor structure identified through Exploratory Factor Analysis in Study 2. In contrast to EFA, "Confirmatory Factor Analysis (CFA) is appropriately used when the researcher has some knowledge of the underlying latent variable structure" (Byrne, 2001, p. 6). According to Nunnally and Bernstein (1994), CFA is conducted to assess the extent to which the hypothesized factors fit the data. In other words, CFA is used to test the utility of the underlying dimensions of a construct identified through EFA, to compare factor structures across studies, and to examine hypotheses concerning the linear structural relationships among factors related to a specific theory or model (Pett et al., 2003).

For the purpose of this study, CFA using AMOS 18.0 program was conducted to confirm the construct validation after the underlying structure had been tentatively established by EFA. The overall model fit, the specific indicator loadings, and construct validity and reliability for the factor model were examined in the CFA.

In the present study, CFA was conducted using maximum likelihood (ML) estimation method. ML is the most commonly used estimation method and requires a sample of at least 200 participants, continuous data, and a normal distribution of the test variables (Kline, 2005). ML performs, on average, better than most other estimation methods, even when its assumptions are violated (Chou & Bentler, 1995).

Subsequently, model fit indices were used to identify the factors extracted by EFA. The issue of goodness-of-fit focuses on the question of whether the model is consistent with or fits the sample data. The most basic goodness-of-fit index is the chi-square statistic. There are several additional goodness-of-fit indices that are used to evaluate the fit of a model: (a) absolute fit indices (e.g., SRMR), (b) parsimony correction indices (e.g., RMSEA), and (c) comparative fit indices (e.g., CFI). Thus, the indicators used to evaluate the model fit in this study were likelihood-ratio chi-square statistic (χ^2), root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), and comparative fit index (CFI).

The likelihood-ratio chi-square statistic (χ^2) is the most fundamental measure available of overall fit (Hair et al., 1998). The chi-square assesses the difference between the observed data and the hypothesized factor model (Byrne, 2001). A nonsignificant chi-square is an indication of fit because the researcher seeks to confirm the null hypothesis. However, the chi-square statistic is greatly influenced by sample size. That is, this statistic is more likely to suggest rejection of proposed model when the sample size is large (Hair et al., 1998; Kline, 2005). For this reason, the chi-square statistic should not be the sole method used for evaluating model fit (Byrne, 2001).

Instead, the relative chi-square, indicating the ratio of chi-square to degrees of freedom (χ^2/df), is used as an informal measure of fit (Mueller, 1996). Although there is no consensus on what value constitutes a good fit, relative chi-squares less than 3.00 are

preferred, but in practice some researchers interpret values as high as 3.00, 4.00, or even 5.00 as indicating good model fit (Bollen, 1989; Mueller, 1996).

The standardized root mean square residual (SRMR) is based on transforming both the sample covariance matrix and the predicted covariance matrix into correlation matrices (Kline, 2005). The SRMR represents the average value across all standardized residuals, and ranges from zero to 1.00; values less than .08 are interpreted as a good fit model (Hu & Bentler, 1999). The comparative fit index (CFI) is derived from the comparison of a proposed model with the independence model (Byrne, 2001), and is suggested as an index of choice (Bentler, 1990). This statistic ranges from poor fit (CFI = 0) to a perfect fit (CFI = 1), with a value greater than .90 represents a well-fitting model (Kline, 2005).

The root mean square error of approximation (RMSEA) is a measure of absolute misfit and depends on the fit of the proposed model (Brown, MacCallum, Kim, Andersen, & Glaser, 2002). As one of the most informative criteria in covariance structure modeling (Byrne, 2001), the RMSEA is bounded by zero on the lower end and will be zero if the model fits perfectly. RMSEA values less than .05 indicate that a model has a good fit, values of .08 or less indicate reasonable fit, and those greater than 1.0 indicate poor fit between the proposed model and the observed data (Hu & Bentler, 1999).

Table 2 A Sampling of Questions and Answers from the Focus Groups

Component	Questions	Answers
Compassion	▷ Please describe how your opponents or the opposing team makes you feel in a sport setting. ▷ Please describe behaviors or expressions that respect or empathize with opponents in a sport setting. ▷ Please describe behaviors or expressions that do not respect or empathize with opponents in a sport setting.	-Respecting opponents -Acknowledging opponent's skills -Caring for each other -Acknowledging opponent's skills -Helping up other players -Showing esteem and respect for the better player
Fairness	▷ When did you show fair play and game sprit in a sport setting? ▷ When did you violate the rules in a sport setting? ▷ When didn't you show fair play in a sport setting?	-Judging without bias -Equal chance of winning -Making fair calls -Trusting a referee -Following the rules -Keeping the start line -No intruding other lanes -Keeping in time -No violating rules
Sportspersonship	▷ What are the features of a player who shows his/her own moral behavior and good expression at the big moment in a sport setting? ▷ Recall a game in which you were leading by a lot and describe both sportspersonship behaviors and unsportspersonship behaviors that you showed. ▷ Recall a game in which you were losing a lot and describe both sportpersonship behaviors and unsportpersonship behaviors that you showed.	-Playing at best and not giving up when losing -Admitting the results -Losing intentionally -Being courteous regardless of the outcome/Greeting others -Showing courtesy to opponent despite losing -Not distracting others -Encouraging others -Congratulating winner -Comforting opponents -Apologizing after foul -Swearing, taunting -Degrading remarks, Trash-talking
Integrity	▷ Please describe the moral standard that guides your behavior in sport. ▷ Recall instances when playing a game in which you carried out your moral standard or conviction. ▷ Recall instances when playing a game in which you failed to carry out your moral standard or conviction.	-Playing best without cheating -Cheating scores/Faking injuries -Cheating on out-of-bounds calls -Doing the best regardless of the results -Recording scores exactly -Intentionally hitting an opponent -Intentional violation of rule -Not admitting a violation of rule -Admitting one's own violation of rule

Table 3 Demographic Information of Participants

		Male	Female	Total
		n (%)	*n* (%)	*n* (%)
Year in School	10th Grade	74 (10.8)	33(4.8)	107 (15.6)
	11th Grade	67 (9.8)	23 (3.4)	90 (13.1)
	12th Grade	68 (9.9)	26 (3.8)	94 (13.7)
	Freshman	122 (17.8)	55 (8.0)	177 (25.8)
	Sophomore	72 (10.5)	46 (6.7)	118 (17.2)
	Junior	41 (6.0)	19 (2.8)	60 (8.8)
	Senior	33 (4.8)	6 (.9)	39 (5.7)
Total		477 (69.6)	208 (30.4)	685 (100.0)

Table 4 Frequency of Participants Based on Sport Type

Sport	Male		Female		Total	
	n	%	*n*	%	*n*	%
Archery	5	.7	16	2.3	21	3.1
Badminton	1	.1	2	.3	3	.4
Baseball	30	4.4	0	.0	30	4.4
Basketball	9	1.3	0	.0	9	1.3
Body building	3	.4	0	.0	3	.4
Bowling	4	.6	2	.3	6	.9
Boxing	11	1.6	1	.1	12	1.8
Canoeing	8	1.2	0	.0	8	1.2
Cycling	6	.9	2	.3	8	1.2
Fencing	11	1.6	15	2.2	26	3.8
Field hockey	10	1.5	17	2.5	27	3.9
Golf	82	12.0	33	4.8	115	16.8
Gymnastics	3	.4	6	.9	9	1.3
Handball	13	1.9	3	.4	16	2.3
Judo	37	5.4	10	1.5	47	6.9
Modern pentathlon	0	.0	2	.3	2	.3
Rowing	8	1.2.	1	.1	9	1.3
Rugby	10	1.5	0	.0	10	1.5
Shooting	15	2.2	10	1.5	25	3.6
Skating	7	1.0	4	.6	11	1.6
Skiing	0	.0	2	.3	2	.3
Soccer	79	11.5	0	.0	79	10.5
Swimming	3	.4	1	.1	4	.6
Table tennis	6	.9	10	1.5	16	2.3
Taekwondo	45	6.6	38	5.5	83	12.1
Tennis	12	1.8	10	1.5	22	3.2
Track & field	12	1.8	9	1.3	21	3.1
Volleyball	9	1.3	0	.0	9	1.3
Weight lifting	0	.0	11	1.6	11	1.6
Wrestling	31	4.	3	.4	34	5.0
Wushu	7	1.0	0	.0	7	1.0
Total	477	69.6	208	30.4	685	100.0

CHAPTER IV

RESULTS

The purpose of this study was to develop a valid and reliable instrument measuring sport character. Four stages of psychometric testing were proposed. The pilot test in Study 1 was conducted in order to evaluate the quality of the initial questionnaire. Next, Exploratory Factor Analysis (EFA) in Study 2 was used to identify the number of reasonable factors captured in the Sport Character Scale (SCS). In Study 3, Confirmatory Factor Analysis (CFA) was used to confirm the outcomes of the model gained in Study 2. Lastly, in Study 4, validity of the SCS was examined.

Study 1: Pilot Study

The pilot study was conducted to examine the clarity of the revised questionnaire to assess sport character. The questionnaire for the pilot test contained demographic information and a total of 65 items (16 items on Compassion, 13 items on Fairness, 17 items on Sportspersonship, 16 items on Integrity, and 3 foil items). Fifty participants, demographically similar to the target group, were recruited in Korea. The researcher had to choose a representative sample from the same population group to adequately ascertain

if respondents understood the items. Of those 50 respondents, 31 were male and 19 were female, ranging in age from 16 to 25 years. The sample contained 23 high school athletes and 27 university athletes, representing 18 sports. In addition to completing the Sport Character Scale (SCS), they were asked to indicate any issues and provide feedback regarding comprehension of each item. No concerns were reported. Thus, all of the items were retained for the subsequent analysis.

Descriptive statistics and reliability analysis were used to eliminate poor items from the item pool. There were no items showing extreme means relative to the range or variances that were close to zero value. Reliability analyses indicated adequate Cronbach's coefficient alphas for all dimensions. The Cronbach's alphas ranged from .81 to .88 (.88 for compassion, .86 for fairness, .81 for sportspersonship, and .88 for integrity).

The item-total correlation values ranged from .08 to .75. However, 12 items showed low item-total correlations of less than .40. Of these 12 items, two items (item #47, r = .08 and item #60, r = .09) were significantly lower than the rest of the items. These values close to zero imply no relationship between the given item and other items contained in that factor. Further, by exploring the alpha if items were deleted, the reliability coefficient of the scale would increase to .96 from .95 if either of these two items were to be deleted. Thus, these two items for measuring sportspersonship (item #47) and integrity (item #60) were deleted from the SCS. The other 10 items were

retained. Overall, the 65-item scale was revised to the final 63-item scale, with a Cronbach's alpha of .96.

Study 2: Exploratory Factor Analysis

Demographic Characteristics

Both exploratory and confirmatory factor analyses were used in this study. Thus, the 685 participants were divided into two groups in order to conduct the two analyses. Using the SPSS program's random assignment method, a total of 342 cases was selected for the Exploratory Factor Analysis (EFA) among the 685 Korean athletes.

The mean age of the 342 student-athletes (238 males and 104 females) was 19.85 years (*SD* = 2.28), ranging from 16 to 31 years. More university athletes (*n* = 195) participated in this study than high school athletes (*n* = 147) (see Table 5). The athletes represented 31 sports (see Table 6) and the average years played in their sport were 6.49 years (*SD* = 2.84), ranging from one to 15 years.

Data Screening

In the descriptive analysis, a few cases were identified as missing data, but they were randomly missing, and the missing data were on different variables. Thus, the Expectation Maximization (EM) method was used to deal with the missing data. The EM method offers the simplest and most reasonable approach to imputate randomly missing data (Tabachnick & Fidell, 2007). Following imputation, data were screened for outliers

and assessed for normality. Using Mahalanobis distance, 10 outliers (case numbers 132, 120, 200, 48, 164, 232, 143, 25, 35, and 230) were found and eliminated (see Figure 2).

Distributions of the 60 items (excluding the three foil items) were examined for normality. Many of the items were negatively skewed and a few were positively skewed. However, no items were deleted because the assumption regarding distributions of variables in the population is not emphasized where factor analysis is used descriptively to summarize the relationships among a large set of variables (Tabachnick & Fidell, 2007). Overall, with 10 outlying cases deleted, the EFA was conducted on responses of 332 participants.

Descriptive Statistics for the Items of the SCS

Means and standard deviations were calculated for the 60 items created to assess sport character. As shown in Table 7, the athletes reported the highest mean on item #25 ("I think that referees should make fair calls"), which was developed to measure Fairness (M = 5.51, SD = .85). Aligned with item #25, another item (#19) concerning a referee's judgment, items #22 and #21 regarding following the rules, and items #31 and #37 related to doing one's best were ranked the highest. Meanwhile, the athletes reported the lowest mean on item #46 ("If I get angry during a competition, it is okay to swear at an opponent"), which was created to assess Sportspersonship (M = 2.01, SD = 1.22). Items #44 ("It is okay to tease or taunt my opponent"), #33 ("It's okay to injure an opponent in order to win"), and #45 (In order to win, it is okay to purposefully foul") representing

unsportsmanlike behavior and item #3 (“I think that I don’t need to respect opponents”) reflecting disrespecting opponents indicated relatively lower means.

Initial Examination of Items’ Performance

Item means and item-total correlations were used to evaluate the performance of the individual items per subscale. An item was removed if its mean was near one of the extreme scores ($M \geq 5.3$ or $M \leq 1.7$) (Pett et al., 2003) or its item-total correlation showed low value ($r < .4$). There were five items showing extreme means of the range: item #25 ($M = 5.51$, $SD = .85$), item #22 ($M = 5.34$, $SD = .85$), item #19 ($M = 5.32$, $SD = .99$), item #21 ($M = 5.30$, $SD = .92$) and item #37 ($M = 5.30$, $SD = .86$). Nine items indicated the low item-total correlations of less than .40: item #3 (reversed score, $r = .30$), item #13 ($r = .37$), item #30 ($r = .15$), item #20 ($r = .33$), item #18 ($r = .36$), item #29 ($r = .39$), item #41 (reversed score, $r = .25$), item #39 ($r = .33$), and item #40 ($r = .33$). Overall, with 14 items eliminated, 46 items were retained for the EFA.

Exploratory Factor Analysis (EFA)

Construct validity of the instrument assessing Sport Character Scale (SCS) was tested by conducting an Exploratory Factor Analysis. A series of Principal Component Analyses (PCA) and Principal Axis Factoring analyses (PAF) with direct oblimin rotations were undertaken, respectively. The outcomes of PCA extraction and PAF extraction methods were compared to find the best factor solution. In general, it is

suggested that results from PCA and PAF should be critically examined and used to determine which of the initial solutions appears to make the most sense theoretically and intuitively (Pett et al., 2003).

The first analysis extracted 8 factors with eigenvalues greater than 1.0. During this phase of EFA, it is important to determine if there are sufficient numbers of significant correlations among the items to justify conducting a factor analysis (Pett et al., 2003). If the correlations among the items are not significant, it will not be possible to obtain a parsimonious set of factors that represent the items in the proposed scale (Pett et al., 2003). To that end, this study included Bartlett's test of sphericity and the Kaiser-Meyer-Olkin test (KMO).

Bartlett's Test of Sphericity indicated that the correlation matrix of the 46 items was a nonidentity matrix (Chi-square of Bartlett's test = 9004.95, $p < .001$). This significant outcome of Bartlett's test indicates that the correlation matrix is not an identity matrix and that there are relationships among the items. In addition, the value of the KMO test showed "marvelous" (Pett et al., 2003, p. 78) sampling adequacy (KMO = .941). The KMO test is a measure of sampling adequacy that indicates the strength of the relationship among items using a partial correlation coefficient (Pett et al., 2003). When evaluating the size of the overall KMO, Kaiser (1974) suggested that a value greater than .60 for the KMO measure is acceptable. Thus, the KMO test and Bartlett's test indicated that the correlation matrix of data was adequate for EFA.

Principal components analysis extraction method. A series of PCA utilizing a direct oblimin rotation were conducted to determine the factor structure of the 46 remaining items of the Sport Character Scale (SCS). Direct oblimin rotation is the most frequently used form of oblique solutions and is recommended when there is some correlation among two or more of the rotated factors (Mertler & Vannatta, 2005). In this study, the correlation among factors was low or modest. The initial analysis retained eight components. Criteria used to select the number of factors with PCA were a Parallel Analysis (PA) and a scree test.

A PA (O'Connor, 2000) for Principal Component Analysis (PCA) was conducted (n = 332, 46 items) to compare the obtained eigenvalues drawn from the actual data with those one would expect to obtain from a random data set. An eigenvalue represents the proportion of the variance explained by each factor (DeVellis, 2003). Factors from the actual data with eigenvalues greater than the corresponding eigenvalue from the random data (either the average or the 95th percentile) are retained. Table 8 shows the first 10 actual eigenvalues drawn from the 46 items of the Sport Character Scale (SCS) to 332 participants, as well as the average and 95th percentile of the eigenvalues drawn from random data set of 100. The results in Table 8 indicated that only the first four actual eigenvalues are greater than those generated by PA (for both the average and 95th percentile criteria) and thus this result suggests the retention of four factors. Additionally, the scree plot appears to show a four factor solution (see Figure 3). The scree plot for determining the number of factors is a plot of the extracted factors against

their eigenvalues in descending order of magnitude and is used to identify distinct breaks in the slope of the plot (Pett et al., 2003).

Thus, a PCA with an oblimin rotation, forcing four components, was conducted. Items having a factor loading less than .40 or high loadings on more than one factor were eliminated from the 46 items. A total of 19 items were eliminated. Overall, four factors and 27 items were extracted. The four factors accounted for 59.07 % of the total variance (see Table 9).

Table 10 contains the factor loadings of each item. Component 1 consisted of 10 items and was labeled *Integrity*. All 10 items loaded on factor 1 were drawn from items that were originally intended to assess Integrity. Component 2 with five items was named *Unsportspersonship*. Component 2 included the items that accept unsportspersonlike attitude among those items intended to represent Sportspersonship. Component 3 with six items was called *Compassion*. The six items loaded on factor 3 were derived from items that were originally generated to measure Compassion. Component 4 with six items was labeled *Fairness / Sportspersonship.* Four items (item #22, 25, 26, and 27) of factor 4 were originally intended to reflect Sportspersonship and two items (item #23 and 24) of factor 4 were generated to assess Fairness.

In order to evaluate the reliability of the scale, the internal consistency with Cronbach's Alpha was calculated. The minimum cutoff value of Cronbach's Alpha was set at .70 (Nunnally, 1978). Table 11 shows the descriptive statistics, between-factor correlations, and alpha coefficients for the four generated subscales of the SCS. The

correlations between the subscales ranged from .218 (for the two factors Compassion and Fairness / Sportspersonship) to .439 (for Integrity and Compassion). The reliability estimates reported in parentheses on the diagonal of Table 11 ranged from .79 to .91 values of coefficient alpha. Overall, the Sport Character Scale (SCS) indicated an acceptable level of reliability.

Principal axis factoring extraction method. A series of PAF utilizing a direct oblimin rotation were conducted to identify an optimal number of extracted factors in the 46 remaining items of the Sport Character Scale (SCS). The initial analysis retained eight factors as found in the PCA outcome. Criteria used to identify the correct number of factors with PAF were as follows: (a) a scree test, and (b) factor interpretability and usefulness both during the initial extraction procedures and after the factors have been rotated to achieve more clarity. Although a Parallel Analysis (PA) for Principal Axis Factoring (PAF) was undertaken to identify the appropriate number of factors in the procedure, this method did not result in a parsimonious solution. Using PA alongside PAF resulted in the retention of seven factors, which were difficult to interpret.

The scree plot appears to indicate a five factor solution (see Figure 4). Further, items that had a factor loading equal to or greater than .40 without double or multiple-loading were retained from the 46 items. Based on these criteria, 28 items were loaded on five factors: 10 items for factor I, six items for factor II, six items for factor III, three items for factor IV, and three items for factor V. Among the six items for factor II, however, item #63 was removed due to a concern regarding content validity. The content

of item #63 ("In order to win, I often cheat") was not related to the overall content of factor II. The remaining items of factor II were originally generated to represent Sportspersonship. Thus item #63 was deleted due to this incongruity. Overall, five factors with 27 items were extracted representing 55.30 % of the total variance (see Table 12). The first factor, named Integrity, accounted for 38.25 % of the total variance.

Loadings of the items on the factors are shown in Table 13. Factor I consisted of 10 items and was called *Integrity*. The 10 items of factor I were drawn from items originally intended to represent Integrity. Factor II with five items was labeled *Antisocial Attitude* because all the items included attitudes related to displaying poor behavior in the sport context. The five items that loaded on factor II were originally intended to represent Sportspersonship. Factor III consisted of six items and was labeled *Compassion*. All six items loaded on factor III were drawn from items originally created to assess Compassion. Factor IV with three items was termed *Sportspersonship*. The three items of factor IV were derived from items that originally created to measure Sportspersonship. Lastly, the three items that loaded on factor V, which was called *Fairness* were derived from items that were originally generated to assess Fairness.

In order to evaluate the reliability of each subscale, Cronbach's coefficient alphas were computed. The minimum cutoff value was set at .70 (Nunnally, 1978). Table 14 presents the descriptive statistics, between-factor correlations, and alpha coefficients for the five generated subscales of the SCS. The correlations between the subscales ranged from .136 (for the two factors Sportspersonship and Compassion) to .520 (for Integrity

and Compassion). The reliability estimates reported in parentheses on the diagonal of Table 14 ranged from .79 to .91 values of coefficient alpha. Overall, the Sport Character Scale (SCS) indicated an acceptable level of reliability.

Comparison of Two Models

Using PCA and PAF Exploratory Factor Analysis (EFA) two models (four-factor and five-factor) were proposed to measure sport character. The two models were compared in order to determine the most parsimonious and theoretically cogent factor structure for the Sport Character Scale (SCS). Criteria used to identify the best factor model were the Akaike information criterion (AIC) and the theoretical model of moral action proposed and concept of sport character proposed by Shields and Bredemeier (1995).

An approach that explicitly evaluates model fit is to follow maximum likelihood (ML) procedures to estimate the parameters of a series of structural models and then compare the criteria to assess the goodness of fit of each model (Ruscio & Roche, 2012). The best known predictive fit index under ML estimation is AIC (Kline, 2005). The AIC is used in the comparison of two or more models, with smaller values representing a better fit of the proposed model (Hu & Bentler, 1999; Ruscio & Roche, 2012). In this study, the AIC value of the four-factor model with 27 items was 908.43 whereas that of five-factor model with 27 items was 904.39. Thus AIC findings suggested the five-factor model was a slightly better fit.

Another method for determining a better model between four-factor and five-factor models is a theoretical analysis. According to Shields and Bredemeier (1995), the construct of sport character is represented by four latent traits: compassion, fairness, sportspersonship, and integrity. To begin with, the four-factor model shown in Table 10 was classified into four dimensions: compassion, fairness / sportspersonship, unsportspersonship, and integrity. Although this model has the same number of subscales as Shields and Bredemeier suggested, it did not distinguish the fairness component from the sportspersonship component. That is, six items, including two items intended to assess fairness and four items intended to measure sportspersonship, loaded on one factor. The five-factor model specified in Table 13 comprised compassion, fairness, sportspersonship, antisocial attitude, and integrity. Even though the five-factor model has one more subscale (labeled as antisocial attitude) than proposed by the model of moral action it was deemed more theoretically consonant and thus retained.

In sum, two models to assess sport character were compared to find the model that best captured the variability in the data as well as the conceptual underpinnings of the study. Based on a model fit index with the AIC and theoretical reflection, the five-factor model with 27 items was deemed the better model. The validity of the five-factor solution was further examined in Study 3 with CFA.

Study 3: Confirmatory Factor Analysis

In Study 3, Confirmatory Factor Analysis (CFA) was used to further examine the validity of the five-factor model of the Sport Character Scale (SCS) with a different sample of Korean athletes.

Demographic Information

The sample consisted of 343 participants who were randomly assigned for Confirmatory Factor Analysis (CFA) among the original dataset of 685 Korean athletes. Participants included 343 athletes, ranging from 15 to 41 years (*M* age = 19.86, *SD* = 2.71). More male athletes (*n* = 239) participated in the study than female athletes (*n* = 104). Further, the sample consisted of high school athletes (*n* = 144) and university athletes (*n* = 199) (see Table 15). The athletes represented 31 sports (see Table 16) and the average years played in their sport were 6.36 years (*SD* = 3.02), ranging from one to 16 years.

Data Screening

The EM method was utilized to deal with a few cases of missing data from the sample of 343 Korean athletes. Multivariate outliers were identified using Mahalanobis distance. Using a criterion of $\alpha = .001$ with 60 df, and a critical chi square (χ^2) value of 99.62, 21 data were identified as outliers. After deleting the 21 outlying cases, 322 responses remained.

The Five-factor CFA Model with 27 Items

Using AMOS version 18.0, CFA was employed to validate the subscales measuring the five factors of Sport Character Scale (SCS). The five-factor CFA model with 27 indicators was examined using the maximum likelihood (ML) method. Model fit indices were used to evaluate the five-factor structure of the instrument. The indices included the likelihood-ratio chi-square statistic (χ^2), relative chi-square (χ^2/df), root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), and comparative fit index (CFI). As shown in Table 17, the CFA of the 27-item, five-factor model indicated a reasonable fit of the data to the model.

The overall fit of the model to the data was examined using the chi-square (χ^2) statistic. The χ^2 value of the model was statistically significant ($p < .001$), indicating the model to be an unacceptable fit to the sample data. However, because the χ^2 statistic is influenced by sample size (Hair et al., 1998), supplementary fit indices were assessed. For the current model, the value of the relative chi-square (CMIN/df) statistic was less than 3.00, indicating a good model fit (Bollen, 1989; Mueller, 1996). The SRMR value was .057, indicating a good model fit (< .08). The RMSEA value of the present model was .063, showing that the model fits the data reasonably well. The CFI value (.907) met the proposed criterion, with values greater than .90 indicating the model is a good fit to the data (Kline, 2005), thus providing evidence of a good fitting model.

Overall, the fit indices met the criteria of acceptable model fit. The paradigm of the five-factor CFA model for the Sport Character Scale (SCS) and the standardized estimations of factor loadings and correlations are presented in Figure 5.

Table 18 provides the standardized solution and the correlation results of the five-factor CFA model. All factor-item loading estimates (standardized regression weights) ranged from .44 to .85 and were statistically significant ($p < .001$). These factor-item loading estimates indicate the relative importance of the observed variables to the measurement of their latent constructs (Kline, 2005). All of the items loaded highly on their respective factors with the exceptions of item #20 ($\lambda = .44$) and item #21 ($\lambda = .46$). Although 'Modification Indices (MI)' for the two items suggested that model fit could be improved by their removal, they were retained without any change because the item #20 ("Even if I lose, I want to be able to offer my heartfelt congratulations) and item #21 ("I feel bad when an opponent is injured") indicated significant factor loading estimates.

Therefore, the items acceptably explained the construct they were designed to explain. This outcome also supported convergent validity for measurement of sport character. Convergent validity is evidenced if indicators specified to measure a common underlying factor have relatively high standardized loadings on that factor (Kline, 2005).

All correlation values ranged from .47 to .73 and were statistically significant ($p < .001$). Correlation estimates on all pairs of five subdimensional factors of the Sport Character Scale (SCS) were assessed to evaluate discriminant validity. Discriminant validity is indicated if the estimated correlations between factors are not excessively high

($r > .85$) (Kline, 2005). Thus, the outcomes of correlation findings support the discriminant validity for the SCS.

Finally, in CFA, the squared multiple correlations (R^2) are used as descriptive reliability estimates for each observed variable (Mueller, 1996). The squared multiple correlation (R^2) is the proportion of variance in the observed variable that is accounted for by the latent variable for which it is an indicator (Blunch, 2008). As shown in Table 18, with two exceptions, the reliability estimates (R^2) for the 25 observed indicators ranged from .30 to .72, indicating acceptable reliability of the SCS in the present sample. However, the squared multiple correlations for item #20 ($R^2 = .19$) and item #21 ($R^2 = .21$) were low. This is consistent with the aforementioned low factor loadings.

Study 4: Validity of the Sport Character Scale (SCS)

In Study 4, criterion-related validity and construct validity were assessed to examine the validation of the five-factor model of the Sport Character Scale (SCS) with different measures.

Criterion Validity

Criterion validity must be assessed in the validation of an instrument. Criterion validity of an instrument is evaluated by comparing the actual measurement with a criterion variable (Blunch, 2008). Criterion validity is divided into two types: concurrent and predictive validity. With concurrent validity, the criterion measure is assessed at the

same time as the new scale to be evaluated, and with predictive validity the criterion is measured at a later time (DeVellis, 2003). A concurrent criterion is typically a different instrument designed to measure the same concept (Blunch, 2008; DeVellis, 2003; Lee et al., 2007).

The present study examined criterion validity of the Sport Character Scale (SCS) using concurrent validity. Specifically, the five factors of the SCS were related to four subscales of the MSOS (Vallerand et al., 1997) and two subscales of the AMDYSQ (Lee et al., 2007). As shown in Table 19, the SCS scales of Compassion, Fairness, Sportspersonship, and Integrity had significant positive correlations with all the prosocial MSOS scales and significant negative correlations with the antisocial moral attitudes subscales of the MSOS, namely, Cheating and Gamesmanship. The SCS scale of Antisocial Attitude correlated significantly and negatively with four prosocial MSOS scales, whereas the Antisocial Attitude correlated significantly and positively with the two antisocial moral attitude subscales (Cheating and Gamesmanship). The consistency, direction, and strength of the correlation coefficients across all subscales of the SCS in relation to the MSOS and AMDYSQ provide evidence for concurrent criterion-related validity of the SCS.

Construct Validity

Construct validity refers to the degree to which scores reflect the desired construct, rather than some other construct (DeVellis, 2003). Establishing construct validity for an

instrument is a multistep process beginning with analysis of the factor structure or dimensionality (within-network approach) and followed by analysis of relationship between the construct and other constructs (between-network approach) (Jackson & Eklund, 2004; Marsh, 1997; Raedeke & Smith, 2009).

Evidence of the construct validity of the Sport Character Scale (SCS) was found through a within-network approach undertaken in Study 2 and Study 3. The present study also assessed construct validity of the SCS with a between-network approach. This involves assessing the relationship of one set of variables with scores from another set of distinct variables hypothesized to be related to the first (Raedeke & Smith, 2009). In this case, the five factors of the SCS were correlated with the CCS (Newton et al., 2007) and two subscales of the PMCSQ (Walling et al., 1993).

As presented in Table 20, the correlations indicated that the SCS subscales of Compassion, Fairness, Sportspersonship, and Integrity were significantly and positively related to both the Caring Climate Scale and two subscales of the PMCSQ. The SCS subscale of Antisocial Attitude correlated significantly and negatively with Mastery Climate subscale of the PMCSQ. However, the Antisocial Attitude subscale was not related to the Caring Climate (r = .01) or the Performance Climate (r = -.05) scales. These findings provide partial evidence of construct validity of the SCS with the CCS and the PMCSQ.

Further, intercorrelations among the five subscales of the SCS were of low to moderate size, ranging from -.38 to .67. These findings support evidence of discriminant

validity. Discriminant validity is indicated if estimated correlations between factors are not excessively high ($r > .85$) (Kline, 2005).

Table 5 Demographic Information of Participants

		Male	Female	Total
		n (%)	*n* (%)	*n* (%)
Year in School	10th Grade	33 (9.6)	13 (3.8)	46 (13.5)
	11th Grade	35 (10.2)	11 (3.2)	46 (13.5)
	12th Grade	35 (10.2)	20 (5.8)	55 (16.1)
	Freshman	61 (17.8)	26 (7.6)	87 (25.4)
	Sophomore	42 (12.3)	24 (7.0)	66 (19.3)
	Junior	18 (5.3)	7 (2.0)	25 (7.3)
	Senior	14 (4.1)	3 (.9)	17 (5.0)
Total		238 (69.6)	104 (30.4)	342 (100.0)

Table 6 Frequency of Participants Based on Sport Type

Sport	Male		Female		Total	
	n	%	*n*	%	*n*	%
Archery	4	1.2	7	2.0	11	3.2
Badminton	1	.3	2	.6	3	.9
Baseball	15	.0	15	4.4	15	4.4
Basketball	4	1.2	0	.0	4	1.2
Body building	2	.6	0	.0	2	.6
Bowling	3	.9	2	.6	5	1.5
Boxing	7	2.0	0	.0	7	2.0
Canoeing	6	1.8	0	.0	6	1.8
Cycling	3	.9	0	.0	3	.9
Fencing	6	1.8	7	2.0	13	3.8
Field hockey	6	1.8	10	2.9	16	4.7
Golf	40	11.7	16	4.7	56	16.4
Gymnastics	1	.3	4	1.2	5	1.5
Handball	8	2.3	1	.3	9	2.6
Judo	19	5.6	6	1.8	25	7.3
Rowing	0	.0	1	.3	1	.3
Rugby	4	1.2	0	.0	4	1.2
Shooting	11	3.2	4	1.2	15	4.4
Skating	2	.6	2	.6	4	1.2
Skiing	0	.0	1	.3	1	.3
Soccer	36	10.5	0	.0	36	10.5
Swimming	1	.3	0	.0	1	.3
Table tennis	3	.9	3	.9	6	1.8
Taekwondo	21	6.1	23	6.7	44	12.9
Tennis	4	1.2	8	2.3	12	3.5
Track & field	8	2.3	2	.6	10	2.9
Volleyball	4	1.2	0	.0	4	1.2
Weight lifting	0	.0	5	1.5	5	1.5
Wrestling	15	4.4	0	.0	15	4.4
Wushu	4	1.2	0	.0	4	1.2
Total	239	69.6	104	30.4	342	100.0

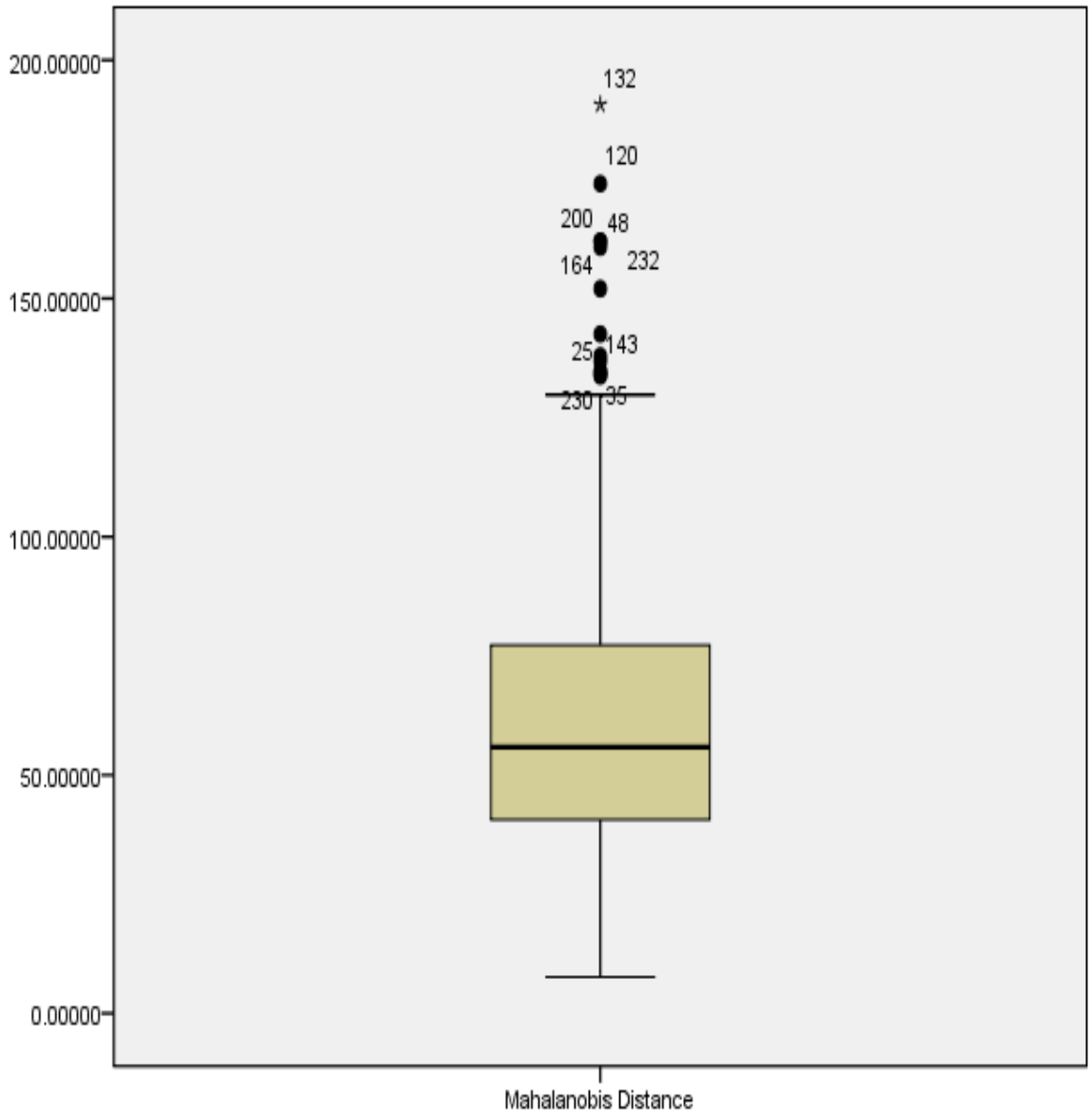

Figure 2. Boxplot for Mahalanobis Distance

Table 7 Descriptive Statistics for the SCS

Item	*N* = 332			
	M	*SD*	Skewness	Kurtosis
sc25	5.51	.85	-1.78	2.41
sc22	5.34	.85	-1.24	1.24
sc19	5.32	.99	-1.42	1.41
sc37	5.30	.86	-1.18	1.17
sc21	5.30	.92	-1.21	.74
sc31	5.28	.88	-1.19	1.10
sc27	5.22	1.00	-1.42	1.85
sc38	5.19	.89	-.91	.25
sc32	5.13	.90	-.93	.65
sc23	5.13	.99	-1.04	.56
sc2	5.07	.89	-.89	.63
sc15	5.05	.97	-.98	.56
sc51	5.00	1.04	-1.04	1.13
sc16	4.99	.94	-.97	1.18
sc35	4.96	.92	-.82	.70
sc34	4.96	.99	-.91	.67
sc58	4.95	.99	-.78	.30
sc12	4.93	.99	-.99	1.25
sc26	4.93	1.00	-.82	.44
sc36	4.91	1.02	-.78	.09
sc6	4.89	1.18	-1.20	1.16
sc1	4.89	.94	-.84	.79
sc57	4.86	.98	-.71	.35
sc4	4.86	1.21	-.98	.35
sc59	4.85	.99	-.55	-.41
sc24	4.83	1.08	-.86	.56
sc50	4.83	1.03	-.72	.28
sc52	4.82	1.00	-.63	.12
sc10	4.75	1.09	-.90	.79
sc18	4.75	1.25	-1.10	.99
sc53	4.72	1.00	-.51	-.41
sc49	4.72	1.08	-.69	.28
sc7	4.71	1.12	-.92	.88

Table 7 Continued

Item	*N* = 332			
	M	*SD*	Skewness	Kurtosis
sc9	4.69	1.14	-.89	.62
sc11	4.66	1.09	-.79	.56
sc54	4.65	1.01	-.34	-.60
sc56	4.62	1.19	-.72	.01
sc48	4.54	1.30	-.90	.24
sc20	4.53	1.16	-.83	.65
sc62	4.52	1.14	-.50	-.05
sc61	4.46	1.24	-.62	-.28
sc8	4.42	1.33	-.75	-.02
sc55	4.41	1.29	-.53	-.47
sc29	4.33	1.37	-.65	-.40
sc5	4.24	1.18	-.61	.16
sc39	4.00	1.41	-.44	-.50
sc40	3.85	1.48	-.31	-.78
sc30	3.70	1.52	-.22	-.92
sc13	3.65	1.35	-.21	-.55
sc41	3.62	1.37	-.21	-.60
sc14	3.51	1.40	.01	-.87
sc64	2.84	1.57	.26	-1.24
sc63	2.69	1.49	.35	-1.05
sc43	2.63	1.42	.45	-.85
sc28	2.54	1.54	.61	-.87
sc45	2.51	1.47	.55	-.89
sc33	2.41	1.46	.74	-.55
sc3	2.13	1.21	1.21	1.01
sc44	2.10	1.20	.94	.18
sc46	2.01	1.22	1.21	.81

Note. SC: Sport Character

Table 8 Actual and Random Eigenvalues

Actual Eigenvalue		Average Eigenvalue	95th Percentile Eigenvalue
16.693	>	1.797	1.867
2.938	>	1.715	1.778
2.323	>	1.647	1.701
1.928	>	1.594	1.633
1.257	<	1.545	1.579
1.195		1.498	1.532
1.143		1.459	1.499
1.041		1.421	1.464
.976		1.382	1.418
.920		1.345	1.382

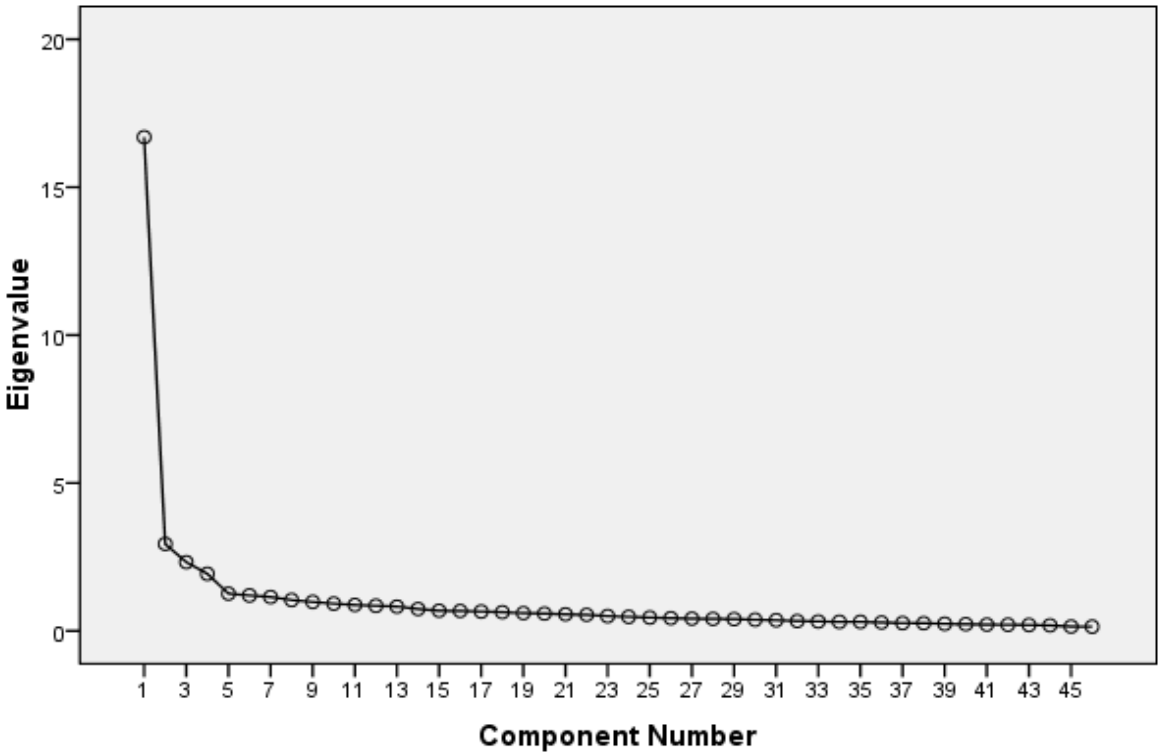

Figure 3. Scree Plot for the PCA

Table 9 Total Variance Explained by the Four Extracted Factors of the SCS

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.60	39.26	39.26	10.60	39.26	39.26
2	2.19	8.10	47.36	2.19	8.10	47.36
3	1.62	5.98	53.34	1.62	5.98	53.34
4	1.55	5.73	59.07	1.55	5.73	59.07

Table 10 Rotated Factor Pattern Matrix for the 27-item SCS

SCS Items	Component			
	1	2	3	4
I. Integrity				
1. Even when losing by a lot of points, I don't give up.	.835			
2. Whether I win or lose, I show good game manners.	.738			
3. Whether I win or lose, I am always courteous.	.725			
4. Even if an opponent plays unfairly, I always show good game manners.	.722			
5. Regardless of whether the referee or coach is watching, I play fairly.	.685			
6. I always accept the results of a game.	.670			
7. Even if I get mad during a game, I don't trash-talk.	.665			
8. Whether I win or lose, I always do my best.	.664			
9. Even if no one is watching, I don't cheat.	.606			
10. If I foul someone, I admit it.	.582			
II. Unsportspersonship				
11. In order to win, it is okay to purposefully foul. (R)		.854		
12. In order to win, I could sometimes be rude and impolite during the play. (R)		.842		
13. It is okay to tease or taunt my opponent. (R)		.822		
14. If I get angry during a competition, it is okay to swear at an opponent. (R)		.800		
15. It is okay to injure an opponent in order to win. (R)		.629		
III. Compassion				
16. I think that if opponents fall down during a game, I should help them up.			.821	
17. I feel that apologizing for a foul shows respect.			.683	
18. I feel that it is important to encourage teammates or opponents to perform well.			.600	
19. I feel bad when an opponent is injured.			.584	
20. I think that it is important to show good game manners.			.581	
21. Even if I lose, I want to be able to offer my heartfelt congratulations.			.557	
IV. Fairness / Sportspersonship				
22. After a competition, players should accept the results.				.645
23. I think that athletes should always play fairly.				.562
24. I think that players should follow the rules even if they are losing by large margin.				.543
25. Regardless of the result of a game, players should be courteous.				.537
26. Even if I lose, it's important to accept the result.				.491
27. I always shake hands with or greet my opponents even if I lost.				.487

Note. R: Reversed scored. Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization.

Table 11 Factor Correlations and Factor Alpha Coefficients for the SCS (*N* = 332)

Factor	*M* [a]	*SD*	1	2	3	4
1. Integrity (*n = 10*)	4.76	.79	(.91)			
2. Negative Sportspersonship (R) (*n = 5*)	4.67	1.10	.417	(.87)		
3. Compassion (*n = 6*)	4.39	.85	.439	.311	(.79)	
4. Fairness/Sportspersonship (*n = 6*)	5.09	.73	.346	.237	.218	(.86)
Total scale (*n = 27*)	4.73	.70				

Note. R: Reversed scored. Reliability estimates appear in the parentheses on the diagonal
a. Range: 1.00 to 6.00.

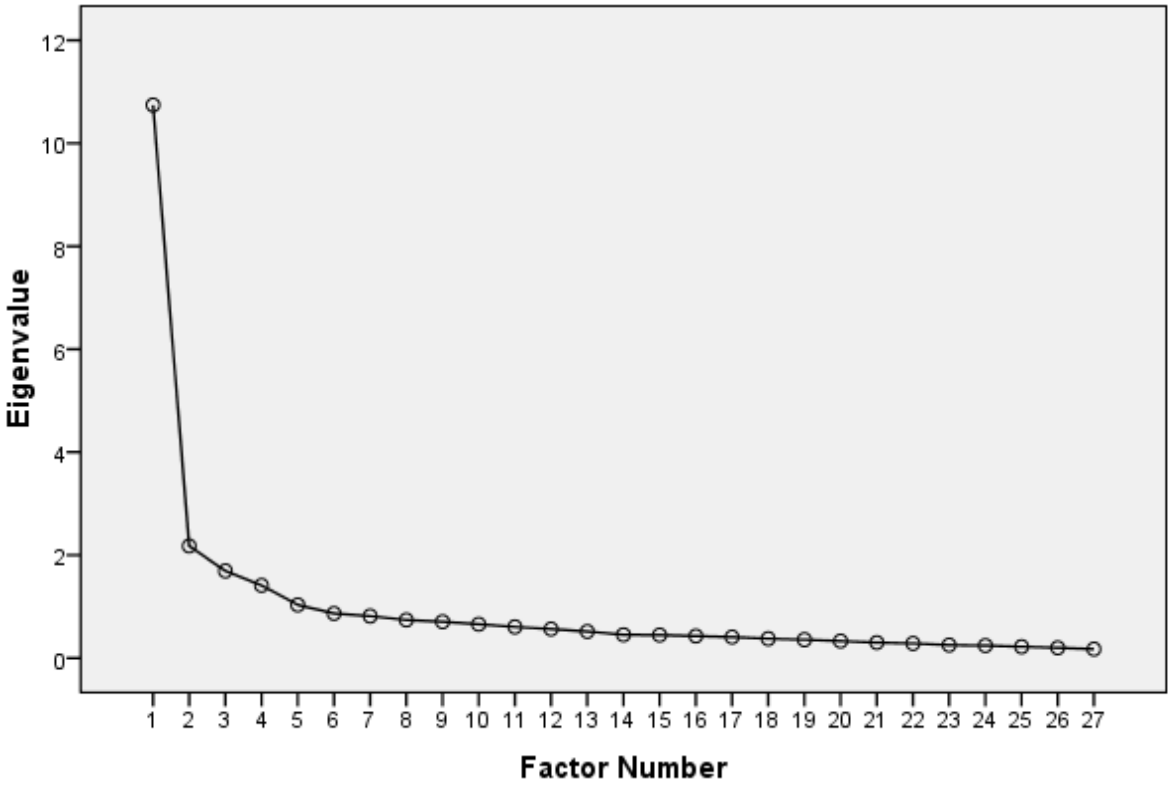

Figure 4. Scree Plot for the PAF

Table 12 Total Variance Explained by the Five Extracted Factors of the SCS

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
I	10.75	39.80	39.80	10.33	38.25	38.25
II	2.18	8.06	47.86	1.80	6.68	44.95
III	1.69	6.27	54.13	1.20	4.46	49.39
IV	1.41	5.23	59.35	.98	3.65	53.03
V	1.03	3.83	63.18	.61	2.26	55.30

Table 13 Rotated Factor Pattern Matrix for the 27-item SCS

SCS Items	Factor				
	1	2	3	4	5
I. Integrity (n = 10)					
1. Even when losing by a lot of points, I don't give up.	.800				
2. I always accept the results of a game.	.712				
3. Whether I win or lose, I am always courteous.	.681				
4. Whether I win or lose, I show good game manners.	.677				
5. Whether I win or lose, I always do my best.	.651				
6. Regardless of whether the referee or coach is watching, I play fairly.	.625				
7. If I foul someone, I admit it.	.535				
8. I follow the rules no matter how mad I get.	.517				
9. Even if I get mad during a game, I don't trash-talk.	.512				
10. Even if no one is watching, I don't cheat.	.495				
II. Antisocial Attitude (n = 5)					
11. In order to win, it is okay to purposefully foul. (R)		.843			
12. It is okay to tease or taunt my opponent. (R)		.834			
13. In order to win, I could sometimes be rude and impolite during the play. (R)		.757			
14. If I get angry during a competition, it is okay to swear at an opponent. (R)		.748			
15. It is okay to injure an opponent in order to win. (R)		.513			
III. Compassion (n = 6)					
16. I think that if opponents fall down during a game, I should help them up.			.778		
17. I feel that apologizing for a foul shows respect.			.684		
18. I think that it is important to show good game manners.			.566		
19. I feel that it is important to encourage teammates or opponents to perform well.			.473		
20. Even if I lose, I want to be able to offer my heartfelt congratulations.			.463		
21. I feel bad when an opponent is injured.			.445		
IV. Sportspersonship (n = 3)					
22. After a competition, players should accept the results.				.645	
23. Players should do their best regardless of whether they are winning or losing.				.571	
24. Even if I lose, it's important to accept the result.				.405	

Table 13 Continued

SCS Items	Factor				
	1	2	3	4	5
V. Fairness (n = 3)					
25. Following game rules is as important as winning.					-.597
26. I think that players should follow the rules even if they are losing by large margin.					-.578
27. I think that playing by the rules is the most important part of game play.					-.513

Note. R: Reversed scored. Extraction Method: Principal Axis Factoring. Rotation Method: Oblimin with Kaiser Normalization.

Table 14 Factor Correlations and Factor Alpha Coefficients for the SCS (*N* = 332)

Factor	*M* [a]	*SD*	1	2	3	4	5
1. Integrity (*n = 10*)	4.78	.79	(.91)				
2. Antisocial Attitude (R) (*n = 5*)	4.67	1.10	.458	(.87)			
3. Compassion (*n = 6*)	4.39	.85	.520	.363	(.79)		
4. Sportspersonship (*n = 3*)	5.13	.78	.262	.153	.136	(.83)	
5. Fairness (*n =3)*	4.96	.87	-.486	-.389	-.361	-.249	(.91)
Total scale (*n = 27*)	4.78	.69					

Note. R: Reversed scored. Reliability estimates appear in the parentheses on the diagonal
a. Range: 1.00 to 6.00.

Table 15 Demographic Information of Participants

		Male	Female	Total
		n (%)	*n* (%)	*n* (%)
Year in School	10th Grade	41 (12.0)	20 (5.8)	61 (17.8)
	11th Grade	32 (9.3)	12 (3.5)	44 (12.8)
	12th Grade	33 (9.6)	6 (1.7)	39 (11.4)
	Freshman	61 (17.8)	29 (8.5)	90 (26.2)
	Sophomore	30 (8.7)	22 (6.4)	52 (15.2)
	Junior	23 (6.7)	12 (3.5)	35 (10.2)
	Senior	19 (5.5)	3 (.9)	22 (6.4)
Total		239 (69.7)	104 (30.3)	343 (100.0)

Table 16 Frequency of Participants Based on Sport Type

Sport	Male		Female		Total	
	n	%	*n*	%	*n*	%
Archery	1	.3	9	2.6	10	2.9
Baseball	15	4.4	0	.0	15	4.4
Basketball	5	1.5	0	.0	5	1.5
Body building	1	.3	0	.0	1	.3
Bowling	1	.3	0	.0	1	.3
Boxing	4	1.2	1	.3	5	1.5
Canoeing	2	.6	0	.0	2	.6
Cycling	3	.9	2	.6	5	1.5
Fencing	5	1.5	8	2.3	13	3.8
Field hockey	4	1.2	7	2.0	11	3.2
Golf	42	12.2	17	5.0	59	17.2
Gymnastics	2	.6	2	.6	4	1.2
Handball	5	1.5	2	.6	7	2.0
Judo	18	5.2	4	1.2	22	6.4
Modern pentathlon	0	.0	2	.6	2	.6
Rowing	8	2.3	0	.0	8	2.3
Rugby	6	1.7	0	.0	6	1.7
Shooting	4	1.2	6	1.7	10	2.9
Skating	5	1.5	2	.6	7	2.0
Skiing	0	.0	1	.3	1	.3
Soccer	43	12.5	0	.0	43	12.5
Swimming	2	.6	1	.3	3	.9
Table tennis	3	.9	7	2.0	10	2.9
Taekwondo	24	7.0	15	4.4	39	11.4
Tennis	8	2.3	2	.6	10	2.9
Track & field	4	1.2	7	2.0	11	3.2
Volleyball	5	1.5	0	.0	5	1.5
Weight lifting	0	.0	6	1.7	6	1.7
Wrestling	16	4.7	3	.9	19	5.5
Wushu	3	.9	0	.0	3	.9
Total	239	69.7	104	30.3	343	100.0

Table 17 Goodness-of-Fit Indices for the Five-factor CFA Model with the 27 Items

Model	χ^2	df	CMIN/df (χ^2/df)	SRMR	CFI	RMSEA
Five-factor	713.89 ($p < .001$)	314	2.274	.057	.907	.063 90 % CI = .057, .069)

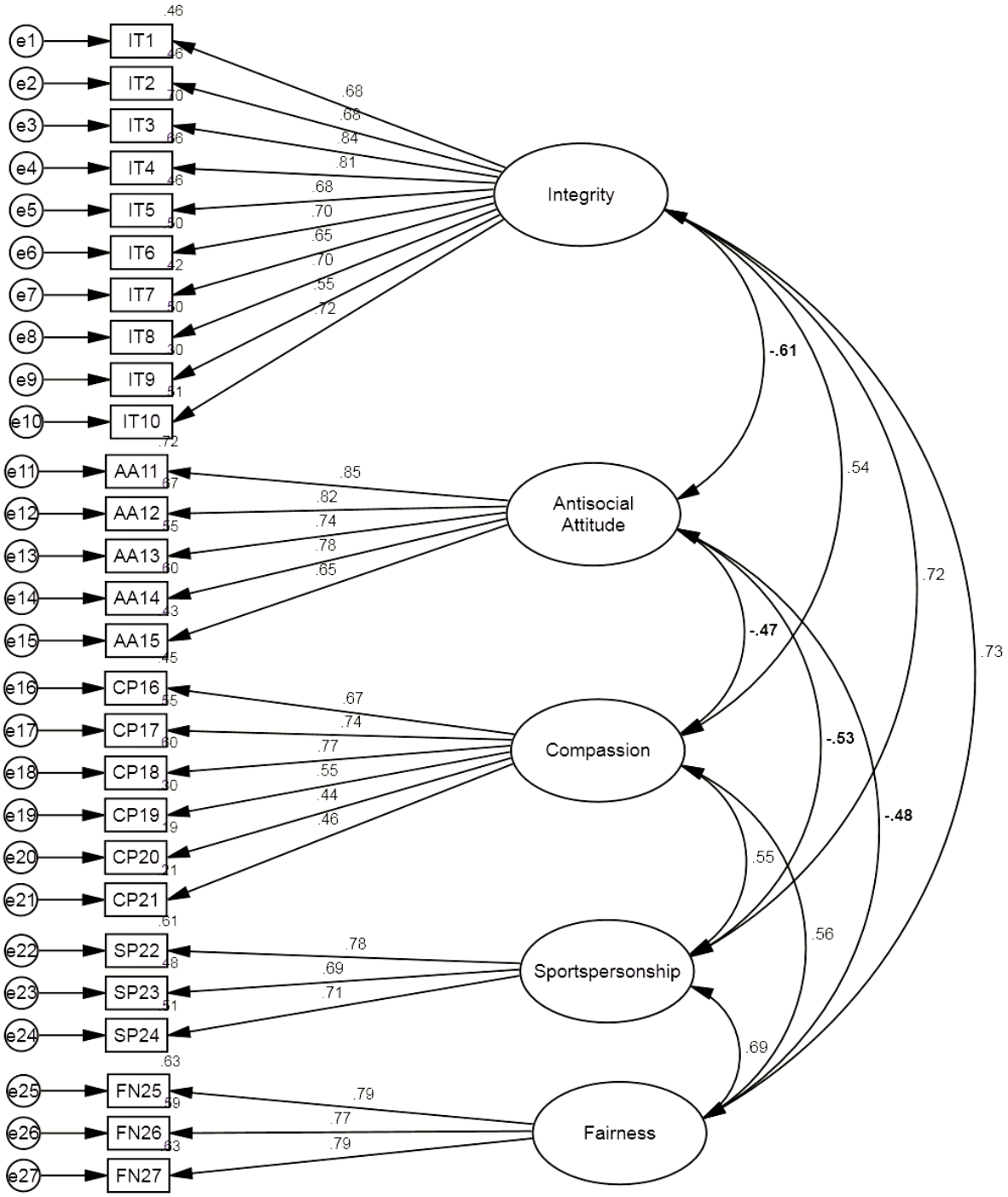

Figure 5. Five-factor CFA Model for the Sport Character Scale (SCS)

Table 18 Standardized Solution and Correlations of the Five-factor CFA Model

Variable	Factor Loading	C.R.		R^2	Factor Correlation			
IT1	.68	13.51	***	.46	Integrity	↔	Antisocial Attitude	-.61
IT2	.68	13.43	***	.46	Integrity	↔	Compassion	.54
IT3	.84			.70	Integrity	↔	Sportspersonship	.72
IT4	.81	17.85	***	.66	Integrity	↔	Fairness	.73
IT5	.68	13.37	***	.46	Antisocial Attitude	↔	Compassion	-.47
IT6	.71	14.12	***	.50	Antisocial Attitude	↔	Sportspersonship	-.53
IT7	.65	12.63	***	.42	Antisocial Attitude	↔	Fairness	-.48
IT8	.70	14.19	***	.50	Compassion	↔	Sportspersonship	.55
IT9	.55	10.44	***	.30	Compassion	↔	Fairness	.60
IT10	.72	14.61	***	.51	Sportspersonship	↔	Fairness	.69
AA11	.85			.72				
AA12	.82	17.09	***	.67				
AA13	.74	14.98	***	.55				
AA 14	.78	15.98	***	.60				
AA 15	.65	12.49	***	.43				
CP16	.67	11.45	***	.45				
CP17	.74	12.30	***	.55				
CP18	.77			.60				
CP19	.55	9.03	***	.31				
CP20	.44	7.16	***	.19				
CP21	.46	7.51	***	.21				
SP22	.78			.61				
SP23	.69	11.83	***	.48				
SP24	.71	11.44	***	.51				
FN25	.79			.63				
FN26	.77	13.70	***	.60				
FN27	.79	14.19	***	.63				

Note. Sport Character Scales: Integrity (IT), Antisocial Attitude (AA), Compassion (CP), Sportspersonship (SP), Fairness (FN). C.R.: Critical Ration for unstandardized regression weight.
*** $p < .001$

Table 19 Assessment of Concurrent Validity for SCS

	Cheating	Gamesmanship	Social Conventions	Rules & Officials	Commitment	Opponents
1. CP	-.33**	-.28**	.53**	.48**	.44**	.57**
2. FN	-.46**	-.42**	.42**	.53**	.53**	.43**
3. SP	-.28**	-.32**	.38**	.43**	.49**	.33**
4. AA	.64**	.66**	-.27**	-.32**	-.32**	-.22**
5. IT	-.48**	-.48**	.52**	.64**	.67**	.58**

Note. Sport Character Scales: Compassion (CP), Fairness (FN), Sportspersonship (SP), Antisocial Attitude (AA), Integrity (IT). AMDYSQ Scales: Acceptance of Cheating, Acceptance of Gamesmanship. MSOS Scales: Respect for Social Conventions, Respect for Rules & Officials, Commitment to Sport, Respect for Opponent.

** $p < .01$, $n = 332$

Table 20 Assessment of Construct Validity for SCS

	1	2	3	4	5	6	7	8
1. Compassion	—							
2. Fairness	.53**	—						
3. Sportspersonship	.44**	.57**	—					
4. Antisocial Attitude	-.38**	-.55**	-.41**	—				
5. Integrity	.58**	.67**	.64**	-.52**	—			
6. Caring Climate	.23**	.14**	.22**	.01	.28**	—		
7. Performance Climate	.20**	.20**	.18**	-.05	.16**	-.26**	—	
8. Mastery Climate	.40**	.46**	.48**	-.22**	.51**	.40**	.30**	—

Note. PMCSQ Scales: Performance Climate, Mastery Climate. Caring Climate Scale: Caring Climate.

** $p < .01$, $n = 332$

CHAPTER V

DISCUSSION

The purpose of this study was to develop a valid and reliable instrument to measure sport character of Korean athletes. This study consisted of two preliminary phases wherein item development for the Sport Character Scale (SCS) occurred. This was followed by four studies to examine the validity and reliability of the measure. More specifically, the four studies were comprised of (a) a pilot test, (b) an Exploratory Factor Analysis (EFA) to find the number of reasonable factors of the SCS, (c) a Confirmatory Factor Analysis (CFA) to test the fit of the model using factors gained by EFA, and (d) an examination of numerous forms of validity of the SCS using a variety of other psychological self-report measurements. In this chapter, the findings from these four different studies are discussed.

Preliminary Phases and Study 1: Pilot Study

The preliminary phases and Study 1 were conducted in order to specify the construct of sport character and develop questionnaire items. Of particular concern was the face and content validity of the items. Face validity refers to whether items appear on

the surface to address the construct of interest (Streiner & Norman, 2003). For the current study, the construct is sport character, inclusive of four latent dimensions: compassion, fairness, sportspersonship, and integrity. Essentially, a non-expert should be able to read each item of interest and have a general knowledge of what the item is assessing (Doty, 2005). Face validity is important in scale development, and should be assessed before the items are selected (Streiner & Norman, 2003). To have face validity, each of the items should logically and reasonably appear to address the content area (sport character) to individuals with knowledge of the content area (Nevo, 1985).

In order to obtain face validity, focus groups, comprised of Korean athletes, were initiated and asked to brainstorm and produce a number of personally relevant situations and experiences wherein the latent variables (compassion, integrity, fairness, and sportspersonship) were expressed in sport. Based on the findings of the focus groups, the researcher had discussions with students, coaches, and scholars who were provided definitions of the theoretically derived latent variables forming the basis of the SCS. Through these meetings, a set of initial draft items for the SCS were generated. The criteria for generating and developing items were as follows: keeping the items to measure sport character (a) clear, short, easy to read, and direct; (b) free of words too difficult to understand; (c) representative of only one idea or thought; (d) free of universals such as always, all, and never; (e) free of double negatives; and, (f) general enough to reflect numerous types of sport (DeVellis, 2003; Streiner & Norman, 2003).

One of the most important processes in scale development is to ensure that the scale has enough items and adequately covers the domain under investigation (Streiner & Norman, 2003). The technical term for this is content validity, which includes two concepts referred to as 'content relevance' and 'the representativeness of the content area'. Content validity is similar to face validity, in that it attempts to answer the question: Do your items assess what you intend to measure? To assess content validity, the items in the present study were removed or revised as often as necessary to reflect significant feedback by a panel of experts and the representative group. All of the experts and students' reviews appeared to confirm content validity of the pool of items developed to measure sport character.

These issues of face validity and content validity were further examined quantitatively in the pilot test. The pilot study was conducted to examine the clarity of the SCS. Fifty Korean athletes were asked to complete the questionnaire and provide feedback regarding each item's comprehensibility. A total of 65 items were retained for the subsequent analysis because no concerns were reported.

The items' performance was initially examined using descriptive statistics and reliability analysis to eliminate poor items from the item pool. Two items (item #47 and item #60) were eliminated from the SCS because they showed significantly lower item-total correlation values (r = .08 for item #47 and r = .09 for item #60). These two items had implied no relationships with the other items loaded on the same factor. In scale development, each individual item should correlate substantially with the collection of

remaining items, being extracted by a component of highly intercorrelated items (DeVellis, 2003; Pett et al., 2003). Thus, an item with a high value for the item-total correlation is more desirable than an item with a low value. Item #47 ("Even though I lose, I should not blame someone else (opponent(s), teammate(s), coach(es), etc.)" was intended to measure sportpersonship factor, but the relative complexity of the item might have confused respondents. The item addresses multiple sources of blame, thus contradicting the face validity criterion of representing only one idea or thought. A more straightforward question such as, "Even though I lose, I should not blame teammate(s)" might have been a more effective question. Item #60 ("Even if an opponent trash-talks me, I ignore it") was designed to assess the integrity factor, but was not related to other items of the subscale. This item seems to be ambiguous in a sport situation. In a game or competition, this item's situation (an opponent trash-talking me) covers a variety of responses for consideration, so this item requires subdivision into more specific situations.

Study 2: Exploratory Factor Analysis

A series of Principal Component Analyses (PCA) and Principal Axis Factoring analyses (PAF) with direct oblimin rotations were undertaken on a large sample of responses from Korean athletes to address the dimensions of sport character and extract questionnaire items. The results of PCA extraction and PAF extraction methods were compared to determine the factor solution that would make the most sense theoretically and intuitively. On one hand, the version of the SCS using PCA extraction methods with

direct oblimin rotation included 27 items under four factors: compassion with six items, fairness and sportspersonship with six items, unsportspersonship with five items, and integrity with 10 items. On the other hand, the version of the SCS using PAF extraction methods with direct oblimin rotation included 27 items under five factors: compassion with six items, fairness with three items, sportspersonship with three items, antisocial attitude with five items, and integrity with 10 items. Of these two different models, the five-factor model with 27 items became the final version for measuring sport character because the five-factor model was determined to be more interpretable and consistent with the concept of sport character.

This study extracted five factors, consisting of the four components suggested by Shields and Bredemeier and one more component labeled as antisocial attitude. The five items measuring antisocial attitude were originally intended to assess sportspersonship. All the items loaded on the antisocial attitude factor included the expression of antisocial attitudes and showing unsportspersonlike behaviors in the sport situation. The bifurcation of the sportspersonship factor into two factors, a prosocial factor and an antisocial factor, may have resulted because the Korean athletes viewed the antisocial attitude as a distinct component. Prosocial and antisocial sportpersonship were not two sides of the same coin; rather, the athletes viewed them as different constructs. It is possible that athletes view antisocial attitude through a strategic lens. They may perceive that acting in unsportspersonlike ways serves to advance their strategic position in sport. Behaving in prosocial sportsperonslike manner does not serve the same purpose.

Typically, behaving well does not result in a competitive advantage.

Previous research supports the independence of negative or antisocial factors. The MSOS (Vallerand et al., 1997) measures athletes' attitudes in the five sportspersonship dimensions. One of the five subscales represents 'a negative approach to participation'. In addition, the AMDYSQ (Lee et al., 2007), an instrument designed to assess attitudes toward moral decision-making in youth sport, contains 3 factors, 2 of which assess antisocial attitudes (*acceptance of cheating* and *acceptance of gamesmanship*).

Supplementary analyses indicated that the internal consistency of the SCS, assessed by Cronbach's α coefficient, was quite good for the five subscales. Overall, the findings of Study 2 provided preliminary evidence of the reliability and validity of the SCS.

Study 3: Confirmatory Factor Analysis Phase

Confirmatory Factor Analysis (CFA) was conducted to test whether the five-factor model with 27 items proposed in Study 2 fits a new sample of data. The factorial validity of the SCS was also supported through the CFA. The CFA results demonstrated a good, though not perfect, fit of the five-factor correlated model. Moreover, based on the results related to the aforementioned statistics, the 27 combined measurement indicators were reasonably reliable and valid for measuring sport character. Overall, the outcomes associated with the five-factor measurement model suggested that the scales for

measuring the sport character of Korean athletes were psychometrically sound, allowing for usage as one measure of general character in sport, with five subscale constructs.

Specifically, as presented in Table 18, all factor-item loading estimates (standardized regression weights) of the five-factor SCS model were significant ($p < .001$) and ranged from .44 to .85, providing evidence of the model's convergent validity. The estimates of the factor loadings indicate the relative importance of the observed indicators for their latent variables (Kline, 2005). The item #18 "I think that it is important to show good game manners" was the most important indicator of the compassion factor ($\lambda = .77$). The question #25 "Following game rules is as important as winning" was the strongest estimate ($\lambda = .79$) of the fairness factor. The strongest indicator of sportspersonship was the item #22 "After a competition, players should accept the results" ($\lambda = .78$). The item #11 "In order to win, it is okay to purposefully foul" was the best indicator ($\lambda = .85$) of antisocial attitude and the question #3 "Whether I win or lose, I am always courteous" was the most important observed variable ($\lambda = .84$) on integrity.

Further, significant relationships were also found between all pairs of the five factors with values ranging from .47 to .73, providing evidence of discriminant validity of the SCS's five factors. Lastly, with two exceptions (items #20 and #21) the squared multiple correlations (R^2) for most of the observed variables indicated acceptable reliability, ranging from .30 to .72.

The two exceptions did not have strong factor loadings (item #20 = .44 and item #21 = .46) on the compassion variable and the squared multiple correlations were also

low (R^2 = .19 for item #20 and R^2 = .21 for item #21), indicating that little variance was explained in the compassion variable by the two items.

Overall, the factorial validity of the SCS was also supported through the confirmatory factor analysis. With regard to Research Question 1, the results of the present study from Study 1 through Study 3 provide evidence for the reliability and validity of the newly developed sport character measure. The five-factor model of the SCS was consistent with the theoretical framework (Shields & Bredemeier, 1995), even though it was not a four-factor model.

Study 4: Validity Examination Phase

The validity phase of this study was guided by two research questions addressing the relationship between the factors of the SCS and the factors of other measures in the field. This analysis was undertaken to examine the concurrent validity and construct validity of the SCS.

Concurrent validity of the SCS was examined by correlating its five subscales with four scales of the MSOS and two subscales of the AMDYSQ (refer to Table 19). Four dimensions of the SCS (i.e., compassion, fairness, sportspersonship, and integrity) indicated significant positive correlations with the four prosocial sportspersonship attitudes (i.e., commitment, social convention, rules and officials, and opponent). Furthermore, antisocial attitude of the SCS showed significant negative correlations with the four subscales of the MSOS. Additionally, four subscales of the SCS (i.e.,

compassion, fairness, sportspersonship, and integrity) had a significant negative relationship with the two antisocial moral attitudes of the AMDYSQ (i.e., cheating and gamesmanship), whereas antisocial attitude of the SCS had significant positive relationships with the same subscales.

These findings provide further evidence that the SCS assesses sport character of athletes in the sport context. Moreover, the low to moderate size of the correlations between the subscales of three instruments demonstrates that the Sport Character Scale (SCS) taps different facets of sport character than those evaluated by the Multidimensional Sportspersonship Orientation Scale (MSOS) and Attitudes to Moral Decision-making in Youth Sport Questionnaire (AMDYSQ).

Construct validity of the SCS was examined by relating the SCS with the CCS and two subscales of the PMCSQ (i.e., performance and mastery motivational climate) (refer to Table 20). The relationships indicated that four subscales of the SCS (i.e., compassion, fairness, sportspersonship, and integrity) had significant positive correlations with both a perceived caring climate and a mastery motivational climate. These results are consistent with previous studies wherein prosocial behavior has been positively related to perceptions of a caring climate (Gano-Overway, Newton, Magyar, Fry, Kim, & Guivernau , 2009) as well perceptions of a mastery climate (Kavussanu, 2006; Kavussanu et al., 2006). Other research has established a positive link between various dimensions of sportspersonship (respect of opponent, social conventions, and rules and officials and perceptions of a mastery climate) (Gano-Overway, Guivernau,

Magyar, Waldron, & Ewing , 2005; Lemyre et al., 2002; Miller et al., 2004; Ommundsen et al., 2003). In contrast, the relationship between antisocial attitude and perceptions of a mastery climate were significant and negative.

On the other hand, the four subscales of the SCS (compassion, fairness, sportspersonship, and integrity) were negligibly related to perceptions of a performance climate and caring climate. There is more prior literature related to the motivational climate than the caring climate. In relation to the motivational climate, these findings align well with Kavussanu and colleagues (Kavussanu et al., 2002), who reported a nonsignificant relationship between perceptions of performance climate and moral functioning in college basketball players. Similarly, a nonsignificant relationship was reported between perceptions of a performance climate and sportspersonship (i.e., respect for the game) in adolescent female volleyball players (Gano-Overway et al., 2005). Previous literature, however, is not unequivocal in this regard. A study revealed that for Norwegian male youth football players, engagement in antisocial moral behaviors such as cheating, rule bending, and aggression was positively related to perceptions of a performance climate (Ommundsen et al., 2003). In addition, in male and female Norwegian youth football players some dimensions of sportspersonship, including respecting rules and officials and social conventions of sport, were negatively related to perceptions of a performance climate (Miller et al., 2004). In relation to the caring climate, Gano-Overway et al. (2009) reported negative relationship between antisocial behavior and the perceived caring climate.

In total, the literature is mixed in relation to the link between sportspersonship variables and perceptions of performance climate and these findings of this study seem firmly ensconced in the middle. The discrepancy in these findings could be due to sport type and competitive level. In previous research, heavy contact sports (e.g., football) showed a negative relationship between sportspersonship variables and the performance motivational climate, whereas noncontact sports (e.g., volleyball) identified no relationship.

The participants in the current study were recruited from 31 sports, including contact sports (e.g., soccer, field hockey, rugby, judo, etc.), noncontact sports (e.g., volleyball, swimming, rowing, etc.), individual sports (e.g., tennis, badminton, golf, etc.), and team sports. The negligible findings of the present study may be due to the variety of sports in the sample. If the participants were divided into more detailed subdivisions of sport type (see Table 21), the relationships between sport character and climate variables may be more clearly identified. Also, intercorrelations among the five subscales of the SCS were of low to moderate size, ranging from -.38 to .67, providing evidence of discriminant validity.

Although not a specific aim of this study, the findings highlight the importance of the motivational climate in fostering sport character. Specifically, athletes who perceive a mastery motivational climate with its emphasis on learning, working hard, team-work, and cooperation among team members (Kavussanu et al., 2006; Miller et al., 2004) is

likely to promote compassion, integrity, fairness, and sportspersonship and inhibit the display of antisocial attitude.

In summary, this study resulted in a five-factor, 27-item Sport Character Scale (SCS). The SCS was tested and found to be valid in terms of its content, criterion, construct, and reliability. Overall, the SCS appears to measure unique characteristics of sport character in Korean athletes.

Limitations

Despite the insights gained from this study pertaining to the development and validation of a self-report measure of Korean athletes' sport character, this investigation contains some limitations. First, the sample was not representative of the population of high school and university athletes in Korea, thus limiting the generalizability of these findings. To be specific, males were largely overrepresented (69.6% of the total sample). Given the apparent differences that exist between male and female athletes in their sport experience, the results would likely have been different with a more equal proportion of male and female athletes. Further, the athletes in this study were recruited from 31 sports. Among these sports a few were relatively highly represented: soccer (11.5%), golf (16.8%), and Taekwondo (12.1%). Further research into the differences in sport character per sport as mentioned above may produce significant and practical results.

A second limitation of this study relates to the items' representativeness of moral development theory, such as Rest's (1984, 1986) four-component model and Shields and

Bredemeier's (Shields & Bredemeier, 1995) 12-component model of moral action. Theoretically, the model of moral action assumes some level of interaction among the four components of character. It is highly doubtful that the questions developed for this study fit this approach. This study's short questions were developed to most concisely capture the key characteristics of each component. However, arguably the only possible means by which to accurately apply Shields and Bredemeier's model is through the longer scenario-based format. However, even scenario or story-based character measurement instruments are limited in generalizability precisely because the various scenarios or stories are sport-specific.

Another limitation involves the research design employed in this study. The findings of this study were identified using the cross sectional data, precluding definite conclusions about cause and effect relationships. For example, with regard to athletes' sport character, it is not known if older athletes were more prosocial and less antisocial at a younger age or whether the same levels of a perceived caring climate and perceived motivational climate were evident on their teams when they were younger. Longitudinal research following the same group of athletes for a few years, recording changes in their components of sport character and other psychological constructs over time would allow for better description of the relationships between these components and constructs.

Future Directions

In light of the findings from the current study, and the weakness associated with this study, several recommendations can be made for future research on sport character. First, because validation is a continuing process (Clark & Watson, 1995), future studies should continue to examine and improve the validity of the SCS. In particular, the SCS model should be validated with a more varied sample set. The participants in the current study were limited to high school and university athletes in Korea. Thus, there is a need for further study using different samples, such as American athletes or general students who participate in physical activity. Further research could also provide evidence for test-retest reliability, examining the invariance of the factor structure across gender, sport type, and cultures using multi-sample analyses. If not, perhaps a sport-specific instrument to measure sport character that matches specific sport or sport type (e.g., contact, non-contact, individual, and team sport) should be developed to better reflect athletes' sport character.

Second, mediational models with the SCS as the outcome or mediator should be tested using theoretically relevant constructs. For example, the conceptual model developed in this study could be used as a starting point for examining relationships between the multidimensions of sport character, caring climate, and motivational climate. Prospective designs may be expanded by adopting other developmental resources such as emotional well-being, satisfaction, interpersonal skills, and identity development as outcome variables.

Moreover, sport character studies could be extended by adopting longitudinal research designs. The use of longitudinal designs will significantly enhance the knowledge base of the development of sport character in the sport context. Indeed, longitudinal investigations with multilevel modeling, which considers both individuals and groups, will provide much more information on sport character development, how intentions or judgments are translated into actions, the degree to which others' leadership styles, beliefs, and behaviors significantly influence sport character components, and how team norms or psychological climates form over time.

Finally, future research should consider integrating the components of character inherent in the model of moral action and measured by the SCS with current motivational theories that emphasize the importance of autonomy (i.e., Self-Determination Theory) as well as outcome versus relational views of motivational orientation (i.e., Achievement Goal Theory and caring, respectively). To that end four types of sport character are suggested (see Figure 6). As shown in Figure 6, the four components of sport character are placed along two continua: regulation and orientation. Regulation refers to sports participants' origin of personal control in sport, whether external (e.g., officials, peers, parents) or internal (autonomous). Orientation refers to sports participants' motivation in sport, whether performance-based or relationship-based. According to this integrated model, the four components of sport character correspond with the following facets of motivation: (a) compassion is consonant with caring motivation because compassion includes the meaning of 'valuing others' and 'respecting others', which are key facets of

caring motivation; (b) sportspersonship is aligned with performance motivation because it focuses on a 'desire to win the game', which is the essence of performance motivation; (c) fairness, which is consistent with external regulation because fairness focuses on 'following the rules' and 'accepting the judgment', which are external sources of regulation; and, (d) integrity is matched with internal regulation because individuals who have integrity display their behaviors based on their internal decision making processes. The heuristic, conceptual, practical, and empirical value of this model is not known and could be examined by future researchers.

Applied Implications

The findings of this research have important implications for sport psychology researchers, coaches, parents, and practitioners. To begin with, the long journey of this study began with the notion that sports can build character. Many athletes struggle with competition, winning, and losing. As performance expectations increase, pressure on athletes to succeed in competition elevates, sometimes revealing their aggressive behaviors and antisocial behaviors. For example, professional athletes in all sports may be role models for youth players whether they want to be or not. All of their actions, not just their feats of physical skill, including their every word or facial expression, directly influence impressionable children. Youngsters often easily remember and imitate famous athletes' antisocial behaviors, such as taunting, trash talk, being disrespectful, cheating, ignoring the rules, or refusing game results. Generally, the more successful the

professional athletes are, the more media attention they receive, irrespective of their sport character.

How are these phenomena and the present study connected? This study developed and validated multidimensional components of sport character scale. It is possible to educate coaches, parents, and athletes about the importance of compassion, sportspersonship, fairness, and integrity. Research has shown that when children are systematically taught about fair play and moral development, character is enhanced through sports (Gibbons et al., 1995). Thus, results of this study could be used to inform coaching and parent education programs to optimize the sport participation of youth.

Table 21 Types of Sport

Contact & Group Sport	Contact & Individual Sport	Noncontact & Group Sport	Noncontact & Individual Sport
Soccer	Taekwondo	Baseball	Tennis
Basketball	Judo	Volleyball	Shooting
Field hockey	Wushu	Rowing	Table tennis
Rugby	Fencing		Golf
Handball	Boxing		Bowling
			Badminton
			Archery
			Skating

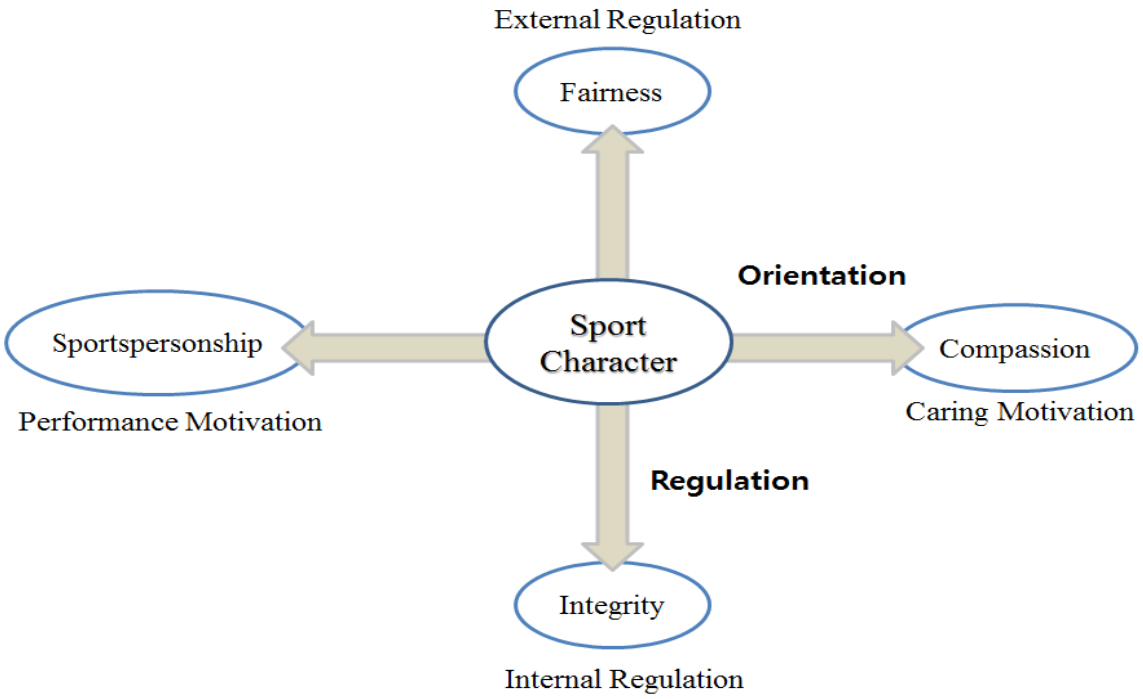

Figure 6. A Hypothesized Model of Types of Sport Character

APPENDIX A

SPORT CHARACTER SCALE (76 ITEMS) TO REVIEW (ENGLISH VERSION)

A. Definition of Sport Character and Its Subscales

Sport Character? "The possession of virtues associated with compassion, fairness, sportspersonship, and integrity in the sport contexts"

Based on sport character literature and theories, the new sport character measure includes four subscales. Those are listed below with a description for each.

Q. The description of each subscale

Subscale	Description
Compassion	The ability to feel with others and value sport participants

Subscale	Description
Fairness	Adhering to the rules of game and the spirit of the rules while competing; The ideal that sport participants should be treated with equality according to the rules of the game

Subscale	Description
Sportspersonship	Choosing to uphold standards of behavior in sport; A player has an intense desire to win, while also striving to play by the rules

Subscale	Description
Integrity	The ability to maintain and act on one's morality and convictions; In any given situation, whether judges, coaches, or sport participants are watching, a player acts according to the rules

B. Please read the description and items of each subscale and answer the questions.

1. Content: Does the item reflect the subscale?

2. Clarity: Is the item clear? The numbers range from 1 *(not clear)* to 5 *(very clear).*

3. Please add any comments to explain your evaluation, or to note items that should be revised or eliminated.

① **Compassion:** Valuing sport participants; Empathy or a feeling with others

	Item	Content		Clarity				
1	I feel that all athletes who are participating in a sporting event are valuable. *Comment:*	Yes	No	1	2	3	4	5
2	I feel that all of the athletes should respect and care for each other. *Comment:*	Yes	No	1	2	3	4	5
3	I feel that I don't need to respect opponents. *Comment:*	Yes	No	1	2	3	4	5
4	I feel that swearing at an opponent is acceptable. *Comment:*	Yes	No	1	2	3	4	5
5	I feel bad when an opponent is injured. *Comment:*	Yes	No	1	2	3	4	5
6	I feel that taunting other players should be looked down upon. *Comment:*	Yes	No	1	2	3	4	5
7	I feel that encouraging others is helpful for better performance. *Comment:*	Yes	No	1	2	3	4	5
8	When opponents fall down during a game, I help them up because I value them. *Comment:*	Yes	No	1	2	3	4	5
9	I feel that I can learn from opponents who are better than me. *Comment:*	Yes	No	1	2	3	4	5
10	I feel that it isn't very important to show good game manners. *Comment:*	Yes	No	1	2	3	4	5
11	I feel that apologizing for a foul shows respect. *Comment:*	Yes	No	1	2	3	4	5
12	I feel that the game should be delayed in the case of an injury of a player. *Comment:*	Yes	No	1	2	3	4	5
13	I feel that following game etiquette shows respect to an opponent. *Comment:*	Yes	No	1	2	3	4	5
14	I want to cheer up opponents if I win. *Comment:*	Yes	No	1	2	3	4	5
15	Even if I lose, I want to be able to offer my heartfelt congratulations. *Comment:*	Yes	No	1	2	3	4	5
16	During a game, I sometimes dislike my opponents enough to want to spit at them. *Comment:*	Yes	No	1	2	3	4	5
17	I feel more secure in my chance of winning when an opponent is injured.	Yes	No	1	2	3	4	5

	Comment:							

② **Fairness**: The ideal that sport participants should be treated with equality according to the rules of the game; All participants having an equal chance to pursue victory

	Item	Content		Clarity				
1	I think that all players should have an equal chance of winning. *Comment:*	Yes	No	1	2	3	4	5
2	I think that game officials should judge without bias. *Comment:*	Yes	No	1	2	3	4	5
3	I think that athletes should respect the referee's decision. *Comment:*	Yes	No	1	2	3	4	5
4	I think that game rules should be applied to all players equally. *Comment:*	Yes	No	1	2	3	4	5
5	I think that all players should follow the rules. *Comment:*	Yes	No	1	2	3	4	5
6	I think that players should play fairly even if they are losing by a lot of points. *Comment:*	Yes	No	1	2	3	4	5
7	I think that if I lose in a competition, it's because of someone else (referee, teammate(s), coach(es), etc.). *Comment:*	Yes	No	1	2	3	4	5
8	I think that it's okay to cheat for the sake of winning. *Comment:*	Yes	No	1	2	3	4	5
9	I think that it's okay to fake an injury to use up time in order to win. *Comment:*	Yes	No	1	2	3	4	5
10	It is okay to cheat on out-of-bounds calls in order to win. *Comment:*	Yes	No	1	2	3	4	5
11	Following game rules is as important as winning. *Comment:*	Yes	No	1	2	3	4	5
12	I think that referees should make fair calls. *Comment:*	Yes	No	1	2	3	4	5
13	I think that there are times when referees make bad calls. *Comment:*	Yes	No	1	2	3	4	5
14	I think that playing by the rules is the most important part of game play. *Comment:*	Yes	No	1	2	3	4	5
15	I think that I can sometimes violate game rules to win. *Comment:*	Yes	No	1	2	3	4	5

16	I think that athletes should always play fairly. *Comment:*	Yes	No	1	2	3	4	5
17	I think that even if opponents make an unfair play, I should display good game manners. *Comment:*	Yes	No	1	2	3	4	5
18	If opponents aren't playing fairly, then I also won't display good game manners. *Comment:*	Yes	No	1	2	3	4	5
19	I think that referees make fair calls. *Comment:*	Yes	No	1	2	3	4	5

③ **Sportspersonship:** A player has an intense desire to win, while also striving to play by the rules; the good attitude displayed by players of a game; to win or lose gracefully

	Item	Content		Clarity				
1	Players should do their best regardless of whoever wins or loses. *Comment:*	Yes	No	1	2	3	4	5
2	After a competition, players should accept the results. *Comment:*	Yes	No	1	2	3	4	5
3	It's okay to injure an opponent in order to win. *Comment:*	Yes	No	1	2	3	4	5
4	Players often break rules in order to win. *Comment:*	Yes	No	1	2	3	4	5
5	Players should display good game manners regardless of win or loss. *Comment:*	Yes	No	1	2	3	4	5
6	When I lose, it's important to accept the result. *Comment:*	Yes	No	1	2	3	4	5
7	If I lose, I don't like to shake hands with or greet my opponent. *Comment:*	Yes	No	1	2	3	4	5
8	In order to distract my opponent I can purposefully make noises. *Comment:*	Yes	No	1	2	3	4	5
9	Even if I am losing by a lot of points, I should not choose to give up. *Comment:*	Yes	No	1	2	3	4	5
10	Regardless of the result of a game, players should be courteous. *Comment:*	Yes	No	1	2	3	4	5
11	If I win, I encourage my opponent(s).	Yes	No	1	2	3	4	5

	Comment:							
12	If I lose, I sincerely congratulate my opponent(s). *Comment:*	Yes	No	1	2	3	4	5
13	If I am losing, I show irritability or lose my temper. *Comment:*	Yes	No	1	2	3	4	5
14	In order to win, it is okay to purposefully violate rules. *Comment:*	Yes	No	1	2	3	4	5
15	Spitting at an opponent is poor behavior. *Comment:*	Yes	No	1	2	3	4	5
16	In order to win, I would choose to be rude and impolite. *Comment:*	Yes	No	1	2	3	4	5
17	It is okay to tease or taunt my opponent. *Comment:*	Yes	No	1	2	3	4	5
18	If I get angry during a competition, it is okay to swear at an opponent. *Comment:*	Yes	No	1	2	3	4	5
19	If I lose, I blame someone else (opponent(s), teammate(s), coach(es), etc. *Comment:*	Yes	No	1	2	3	4	5

④ **Integrity:** The ability to maintain and act on one's morality and convictions; In any given situation, whether judges, coaches, or sport participants are watching, a player acts according to the rules

	Item	Content		Clarity				
1	I always shake hands with or greet my opponents even if I lost. *Comment:*	Yes	No	1	2	3	4	5
2	Even if I am losing, I don't foul an opponent. *Comment:*	Yes	No	1	2	3	4	5
3	If I foul someone, then I admit it. *Comment:*	Yes	No	1	2	3	4	5
4	I always abide by the referee's calls. *Comment:*	Yes	No	1	2	3	4	5
5	Regardless of whether referee or coach watches, I play fairly. *Comment:*	Yes	No	1	2	3	4	5
6	I follow the rules no matter how mad I get. *Comment:*	Yes	No	1	2	3	4	5
7	Even if no one is watching, I don't cheat. *Comment:*	Yes	No	1	2	3	4	5
8	If someone fouled me intentionally, then I would foul them back. *Comment:*	Yes	No	1	2	3	4	5

9	If I get upset, I show aggressive behavior. *Comment:*	Yes	No	1	2	3	4	5
10	Even if I get angry, I don't spit at my opponent(s). *Comment:*	Yes	No	1	2	3	4	5
11	There have been times when I've taunted or looked down on my opponent(s). *Comment:*	Yes	No	1	2	3	4	5
12	Whether I win or lose, I always do my best. *Comment:*	Yes	No	1	2	3	4	5
13	Even when losing by a lot of points, I don't give up. *Comment:*	Yes	No	1	2	3	4	5
14	Whether I win or lose, I show good game manners. *Comment:*	Yes	No	1	2	3	4	5
15	Even if an opponent trash-talks me, I ignore it. *Comment:*	Yes	No	1	2	3	4	5
16	Even if I get mad during a game, I don't show any irritability or trash-talk. *Comment:*	Yes	No	1	2	3	4	5
17	I always accept the results of a game. *Comment:*	Yes	No	1	2	3	4	5
18	Even if an opponent plays unfairly, I always show good game manners. *Comment:*	Yes	No	1	2	3	4	5
19	In order to win, I often cheat on out-of-bounds calls. *Comment:*	Yes	No	1	2	3	4	5
20	In order to win, there have been times when I've violated rules. *Comment:*	Yes	No	1	2	3	4	5
21	Whether I win or lose, I am always courteous. *Comment:*	Yes	No	1	2	3	4	5

APPENDIX B

SPORT CHARACTER SCALE (76 ITEMS) TO REVIEW (KOREAN VERSION)

A. Definition of Sport Character and Its Subscales

Sport Character (스포츠 인성)? "The possession of virtues associated with compassion, fairness, sportspersonship, and integrity in the sport contexts"

→본 연구는 스포츠 인성 질문지를 만들기 위한 것입니다. 스포츠 인성은 운동 경기 상황에서 선수들이 마음속에서 느끼는 감정과 머리 속에서 판단하는 생각과 태도, 그리고 실제로 나타내는 행동들을 모두 포함합니다. 아래의 문항들은 스포츠 인성과 관련된 것들로, 스포츠 상황에서 일어나는 일들에 대해 선수들이 가지는 마음과 생각, 그리고 결정 과정을 통해 어떻게 그들이 행동이나 표현을 드러내는지에 대해 나열해 놓은 것입니다. 실제로, 경기에서 선수들이 (1) 상대 선수에 대해 가지는 마음가짐, (2) 운동 경기나 경기 규칙에 대해 가지고 있는 생각이나 태도, (3) 스포츠맨십에 관한 태도나 자세, 그리고 (4) 말이나 행동을 어떻게 하고 있는지에 대한 문항들을 검토해보시고, 수정할 것이나 첨가되어야 문항들, 또는 삭제할 문항들에 대해 좋은 의견 주시면 감사하겠습니다.

Based on sport character literature and theories, the new sport character measure includes four subscales. Those are listed below with a description for each.

Q. The description of each subscale

Subscale	Description
Compassion	The ability to feel with others and value sport participants

Subscale	Description
Fairness	Adhering to the rules of game and the spirit of the rules while competing; The ideal that sport participants should be treated with equality according to the rules of the game

Subscale	Description
Sportspersonship	Choosing to uphold standards of behavior in sport; A player has an intense desire to win, while also striving to play by the rules

Subscale	Description
Integrity	The ability to maintain and act on one's morality and convictions; In any given situation, whether judges, coaches, or sport participants are watching, a player acts according to the rules

B. Please read the description and items of each subscale and answer the questions.

1. Content: Does the item reflect the subscale? →각각의 문항들이 각 요인을 잘 나타내고 있는지를 평가하는데 주 목적이 있습니다. 다음의 4 개 하위 요인들과 문항들과의 관계를 고려하여 정확한 의견을 주시면 감사하겠습니다.

2. Clarity: Is the item clear? The numbers range from 1 *(not clear)* to 5 *(very clear).* → 각 문항들의 표현이 명확한지 확인하고자 합니다. 이상하거나 어색한 표현은 자연스런 표현으로 수정해 주십시오.

3. Please add any comments to explain your evaluation, or to note items that should be revised or eliminated.

① **Compassion:** Valuing sport participants (스포츠 참가자를 가치 있게 여기는 마음); 상대 선수 존중; Empathy or a feeling with others (상대방을 생각하는 마음이나 상대방에 대한 느낌)

	Item	**Content**		**Clarity**				
1	나는 경기에 참가하는 선수 모두는 가치 있는 존재라고 느낀다. *Comment:*	Yes	No	1	2	3	4	5
2	경기에 참가하는 모든 선수는 서로 존중하고 아껴주어야 한다고 느낀다. *Comment:*	Yes	No	1	2	3	4	5
3	나는 상대 선수를 존중하지 않아야 한다고 느낀다. *Comment:*	Yes	No	1	2	3	4	5
4	상대방에게 욕을 하는 것은 상대 선수를 존중하지 않는 행위라고 느낀다. *Comment:*	Yes	No	1	2	3	4	5
5	같이 경기하던 상대 선수가 부상당하면 마음이 아프다. *Comment:*	Yes	No	1	2	3	4	5
6	상대 선수에게 조롱하거나 약을 올리는 것은 상대를 무시하는 것이다. *Comment:*	Yes	No	1	2	3	4	5
7	다른 선수 (팀 동료 또는 상대 포함)가 잘 하도록 격려해주는 것은 그 선수에게 도움이 된다고 느낀다. *Comment:*	Yes	No	1	2	3	4	5
8	넘어진 상대 선수를 일으켜 주는 것은 상대 선수를 존중하는 것이라고 느낀다. *Comment:*	Yes	No	1	2	3	4	5
9	나는 나보다 잘하는 상대 선수를 보면 배우고 싶다고 느낀다. *Comment:*	Yes	No	1	2	3	4	5
10	상대 선수에게 좋은 경기 매너를 보이는 것은 큰 의미가 없다고 느낀다.	Yes	No	1	2	3	4	5

	Comment:							
11	파울 후에 상대방에게 사과하는 것은 상대 선수를 존중하는 것이다. *Comment:*	Yes	No	1	2	3	4	5
12	경기 중 상대 선수가 부상당하면 경기를 잠시 중단해야 한다. *Comment:*	Yes	No	1	2	3	4	5
13	상대 선수에게 예의 바르게 인사하는 것은 상대 선수를 존중하는 것이라고 느낀다. *Comment:*	Yes	No	1	2	3	4	5
14	시합에서 이기면, 나는 상대방을 위로하고 싶은 마음이 든다. *Comment:*	Yes	No	1	2	3	4	5
15	시합에서 지면, 나는 승리한 상대방에게 진심으로 축하해주고 싶은 마음이 든다. *Comment:*	Yes	No	1	2	3	4	5
16	경기 중, 상대선수에게 침을 뱉고 싶을 정도로 상대 선수가 싫을 때가 있다. *Comment:*	Yes	No	1	2	3	4	5
17	같이 시합중인 상대 선수가 다치면 승리에 대한 안도감이 든다. *Comment:*	Yes	No	1	2	3	4	5

② **Fairness: The ideal that sport participants should be treated with equality according to the rules of the game**; 경기 규칙 준수 및 정정당당함; **All participants having an equal chance to pursue victory**

	Item	**Content**		**Clarity**				
1	모든 선수들은 승리할 기회를 동등하게 가져야 한다고 생각한다. *Comment:*	Yes	No	1	2	3	4	5
2	심판 판정은 공정하게 이루어져야 한다고 생각한다. *Comment:*	Yes	No	1	2	3	4	5
3	선수들은 심판 판정을 인정해야 한다. *Comment:*	Yes	No	1	2	3	4	5
4	경기 규칙은 모든 선수들에게 동등하게 적용되어야 한다. *Comment:*	Yes	No	1	2	3	4	5
5	모든 선수들은 경기 규칙을 지켜야 한다고 생각한다. *Comment:*	Yes	No	1	2	3	4	5
6	큰 점수차로 지고 있을지라도, 선수들은 정정당당하게 경기에 임해야 한다. *Comment:*	Yes	No	1	2	3	4	5
7	경기에서 지면, 다른 사람 때문이라고 생각한다. *Comment:*	Yes	No	1	2	3	4	5

8	이기기 위해 점수를 속일 수 있다고 생각한다. *Comment:*	Yes	No	1	2	3	4	5
9	이기고 있을 때는 시간을 끌기 위해 선수들은 부상당한 척 할 수 있다. *Comment:*	Yes	No	1	2	3	4	5
10	이기기 위해, 경기장 라인을 속이는 것은 괜찮다고 여긴다. *Comment:*	Yes	No	1	2	3	4	5
11	경기 규칙을 지키는 것은 이기는 것만큼 중요하다. *Comment:*	Yes	No	1	2	3	4	5
12	심판은 공정하게 판정해야 한다. *Comment:*	Yes	No	1	2	3	4	5
13	나는 심판으로부터 부당한 판정을 받는 경우가 있다고 생각한다. *Comment:*	Yes	No	1	2	3	4	5
14	경기 규칙을 지키면서 경기하는 것이 시합에서 제일 중요하다고 생각한다. *Comment:*	Yes	No	1	2	3	4	5
15	승리하기 위해, 경기 규칙을 어기는 경우가 있을 수 있다고 생각한다. *Comment:*	Yes	No	1	2	3	4	5
16	선수들은 항상 정정당당하게 경기에 임해야 한다고 생각한다. Comment:	Yes	No	1	2	3	4	5
17	상대방이 정정당당한 플레이를 하지 않더라도, 나는 좋은 경기 매너를 보여주어야 한다고 생각한다. *Comment:*	Yes	No	1	2	3	4	5
18	상대방이 정정당당하게 플레이 하지 않으면, 나도 좋은 경기 매너를 보여주지 않는다. *Comment:*	Yes	No	1	2	3	4	5
19	나는 심판 판정이 공정하게 이루어지고 있다고 생각한다. *Comment:*	Yes	No	1	2	3	4	5

③ **Sportspersonship:** A player has an intense desire to win, while also striving to play by the rules; the good attitude displayed by players of a game (경기 중에 선수들이 보여주는 태도); to win or lose gracefully (진정한 승리자 혹은 패배자의 모습)

	Item	**Content**		**Clarity**				
1	선수들은 승부를 떠나 최선을 다해 경기에 임해야 한다. *Comment:*	Yes	No	1	2	3	4	5
2	경기가 끝나면, 선수들은 경기 결과에 승복해야 한다. *Comment:*	Yes	No	1	2	3	4	5
3	승리하기 위해, 상대선수를 다치게 하는 것은 괜찮다.	Yes	No	1	2	3	4	5

	Comment:							
4	이기기 위해, 선수들은 종종 경기 규칙을 위반한다. *Comment:*	Yes	No	1	2	3	4	5
5	승패에 상관없이, 선수들은 좋은 경기 매너를 보여주어야 한다. *Comment:*	Yes	No	1	2	3	4	5
6	시합에서 졌을 때, 경기 결과에 승복하는 것은 중요하다. *Comment:*	Yes	No	1	2	3	4	5
7	경기에서 지면, 상대 선수와 인사(악수)하고 싶지 않다. *Comment:*	Yes	No	1	2	3	4	5
8	상대 선수를 방해하기 위해 일부러 떠들거나 시끄럽게 할 수 있다. *Comment:*	Yes	No	1	2	3	4	5
9	경기에 크게 지고 있어도, 게임을 포기하지 않아야 한다. *Comment:*	Yes	No	1	2	3	4	5
10	승패에 상관없이, 선수들은 예의를 지켜야 한다. *Comment:*	Yes	No	1	2	3	4	5
11	시합에서 이기면, 나는 상대방을 위로한다. *Comment:*	Yes	No	1	2	3	4	5
12	시합에서 지면, 상대방을 진심으로 축하해준다. *Comment:*	Yes	No	1	2	3	4	5
13	지고 있으면, 짜증이나 화를 낸다. *Comment:*	Yes	No	1	2	3	4	5
14	경기에서 이기기 위해, 일부러 반칙을 할 수 있다. *Comment:*	Yes	No	1	2	3	4	5
15	상대에게 침을 뱉는 것은 비신사적인 행동이다. *Comment:*	Yes	No	1	2	3	4	5
16	경기에서 이기기 위해, 나는 상대 선수에게 무례하게 대할 수 있다. *Comment:*	Yes	No	1	2	3	4	5
17	상대 선수에게 조롱하거나 비아냥거리는 것은 괜찮다. *Comment:*	Yes	No	1	2	3	4	5
18	경기 중 화가 나면, 상대에게 욕을 할 수도 있다. *Comment:*	Yes	No	1	2	3	4	5
19	경기에서 지면, 다른 사람을 탓하거나 비난한다. *Comment:*	Yes	No	1	2	3	4	5

④ **Integrity:** The ability to maintain and act on one's morality and convictions (규칙과 규준에 맞는 행동); In any given situation, whether judges, coaches, or sport participants are watching, a player acts according to the rules

	Item	Content		Clarity				
1	나는 경기 후 승패와 상관없이, 항상 상대 선수와 인사 또는 악수한다. *Comment:*	Yes	No	1	2	3	4	5
2	나는 지고 있는 상황에서도 상대 선수에게 거친 행동을 하지 않는다. *Comment:*	Yes	No	1	2	3	4	5
3	파울을 범한 후, 나는 스스로 인정한다. *Comment:*	Yes	No	1	2	3	4	5
4	나는 항상 심판 판정을 따른다. *Comment:*	Yes	No	1	2	3	4	5
5	심판이나 코치와 상관없이, 나는 정정당당한 플레이를 한다. *Comment:*	Yes	No	1	2	3	4	5
6	아무리 화가 날지라도, 나는 경기 규칙을 준수한다. *Comment:*	Yes	No	1	2	3	4	5
7	다른 사람이 지켜보지 않을 지라도, 나는 속임수를 쓰지 않는다. *Comment:*	Yes	No	1	2	3	4	5
8	상대 선수가 고의로 반칙하면, 나도 거칠게 행동한다. *Comment:*	Yes	No	1	2	3	4	5
9	화가 나거나 열 받으면, 나는 상대선수에게 거친 행동을 하게 된다. *Comment:*	Yes	No	1	2	3	4	5
10	경기 중 화가 날지라도, 나는 상대선수에게 침을 뱉지 않는다. *Comment:*	Yes	No	1	2	3	4	5
11	나는 경기 중에 상대 선수를 조롱하거나 무시한 적이 있다. *Comment:*	Yes	No	1	2	3	4	5
12	승패에 상관없이, 나는 항상 최선을 다한다. *Comment:*	Yes	No	1	2	3	4	5
13	크게 지고 있어도, 나는 게임을 포기하지 않는다. *Comment:*	Yes	No	1	2	3	4	5
14	승패에 상관없이, 나는 좋은 경기 매너를 보여준다. *Comment:*	Yes	No	1	2	3	4	5
15	상대 선수가 나에게 욕을 해도 나는 그것을 개의치 않는다. *Comment:*	Yes	No	1	2	3	4	5
16	경기 중 화가 나거나 열 받을지라도, 나는 상대선수에게 짜증내거나 욕을 하지 않는다. *Comment:*	Yes	No	1	2	3	4	5
17	나는 항상 경기 결과에 승복한다. *Comment:*	Yes	No	1	2	3	4	5
18	상대 선수가 정정당당하게 경기에 임하지 않을지라도, 나는 항상 게임 매너를 지킨다. *Comment:*	Yes	No	1	2	3	4	5
19	내가 경기에서 이기기 위해, 나는 종종 경기장 라인을 속인다.	Yes	No	1	2	3	4	5

	Comment:							
20	이기기 위해, 나는 경기 규칙을 위반한 적이 있다. *Comment:*	Yes	No	1	2	3	4	5
21	승패에 상관없이, 나는 항상 예의를 지킨다. *Comment:*	Yes	No	1	2	3	4	5

APPENDIX C

QUESTIONNAIRES (ENGLISH VERSION)

Part I: Demographic Information

1. Gender: Male ( ) Female ( )

2. Age: ( )

3. What sport are you currently participating in? _____

4. How many years have you played in your sport (including this year)?
_____

5. What year are you in? _____

Remember, this is not a test. There are no right or wrong answers. Your coach will not see your responses. We are most interested in your honest thoughts. Thank you!

Part II: Perceived Caring Climate

Directions: Think about what your team and coaches are usually like. Read each question and check the number that is closest to how you feel.

	On this team…	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	…team members are treated with respect.	1	2	3	4	5
2	…the coaches respect team members.	1	2	3	4	5
3	…the coaches are kind to team members.	1	2	3	4	5
4	…the coaches care about team members.	1	2	3	4	5
5	…team members feel that they are treated fairly.	1	2	3	4	5
6	…the coaches try to help team members.	1	2	3	4	5
7	…the coaches want to get to know all the team members.	1	2	3	4	5
8	…everyone likes team members for who they are.	1	2	3	4	5
9	…the coaches listen to team members.	1	2	3	4	5

10	…the coaches accept team members for who they are.	1	2	3	4	5
11	…team members feel safe.	1	2	3	4	5
12	…team members feel comfortable.	1	2	3	4	5
13	…team members feel welcomed every day.	1	2	3	4	5

Part III: Sport Character

Directions: Read each question and check the number that is closest to how you think.

Strongly Disagree 1	**Disagree 2**	**Slightly Disagree 3**	**Slightly Agree 4**	**Agree 5**	**Strongly Agree 6**

1	I think that all athletes who are participating in a sporting event are valuable.	1	2	3	4	5	6
2	I think that all of the athletes should respect each other.	1	2	3	4	5	6
3	I think that I don't need to respect opponents.	1	2	3	4	5	6
4	I think that swearing at an opponent shows disrespect.	1	2	3	4	5	6
5	I feel bad when an opponent is injured.	1	2	3	4	5	6
6	I think that athletes should not taunt other players.	1	2	3	4	5	6
7	I feel that it is important to encourage teammates or opponents to perform well.	1	2	3	4	5	6
8	I think that if opponents fall down during a game, I should help them up.	1	2	3	4	5	6
9	I think that it is important to show good game manners.	1	2	3	4	5	6
10	I feel that apologizing for a foul shows respect.	1	2	3	4	5	6
11	I think that the game should be delayed in the case of an injury of a player.	1	2	3	4	5	6
12	I think that following game etiquette shows respect to an opponent.	1	2	3	4	5	6
13	I want to cheer up opponents if I win.	1	2	3	4	5	6
14	Even if I lose, I want to be able to offer my heartfelt congratulations.	1	2	3	4	5	6

15	I feel that I can learn from other players who are better than me.	1	2	3	4	5	6
16	I think that players should be courteous one another all the time.	1	2	3	4	5	6
17	Basketball is a non-contact sport.	1	2	3	4	5	6
18	I think that all players should have an equal chance of winning.	1	2	3	4	5	6
19	I think that game officials should judge without bias.	1	2	3	4	5	6
20	I think that athletes should respect the referee's decision.	1	2	3	4	5	6
21	I think that game rules should be applied to all players equally.	1	2	3	4	5	6
22	I think that all players should follow the rules.	1	2	3	4	5	6
23	I think that players should follow the rules even if they are losing by large margin.	1	2	3	4	5	6
24	Following game rules is as important as winning.	1	2	3	4	5	6
25	I think that referees should make fair calls.	1	2	3	4	5	6
26	I think that playing by the rules is the most important part of game play.	1	2	3	4	5	6
27	I think that athletes should always play fairly.	1	2	3	4	5	6
28	I think that I can sometimes violate game rules in order to win.	1	2	3	4	5	6
29	I think that even if opponents make an unfair play, I should play fairly.	1	2	3	4	5	6
30	I think that referees always make fair calls.	1	2	3	4	5	6
31	Players should do their best regardless of whether they are winning or losing.	1	2	3	4	5	6
32	After a competition, players should accept the results.	1	2	3	4	5	6
33	It's okay to injure an opponent in order to win.	1	2	3	4	5	6
34	Players should display good game manners regardless of win or loss.	1	2	3	4	5	6
35	Even if I lose, it's important to accept the result.	1	2	3	4	5	6
36	I always shake hands with or greet my opponents even if I lost.	1	2	3	4	5	6
37	Even if I am losing by a lot of points, I should not give up.	1	2	3	4	5	6
38	Regardless of the result of a game, players should be	1	2	3	4	5	6

	courteous.						
39	When I win, I encourage my opponent(s).	1	2	3	4	5	6
40	Although I lose, I sincerely congratulate my opponent(s).	1	2	3	4	5	6
41	If I am losing, I show irritability or lose my temper.	1	2	3	4	5	6
42	The shape of a soccer ball is rectangular.	1	2	3	4	5	6
43	In order to win, I could sometimes be rude and impolite during the play.	1	2	3	4	5	6
44	It is okay to tease or taunt my opponent.	1	2	3	4	5	6
45	In order to win, it is okay to purposefully foul.	1	2	3	4	5	6
46	If I get angry during a competition, it is okay to swear at an opponent.	1	2	3	4	5	6
47	If I lose, I should not blame someone else (opponent(s), teammate(s), coach(es), etc.)	1	2	3	4	5	6
48	Players should not make noises on purpose to distract other players.	1	2	3	4	5	6
49	I follow the rules no matter how mad I get.	1	2	3	4	5	6
50	Regardless of whether the referee or coach is watching, I play fairly.	1	2	3	4	5	6
51	Whether I win or lose, I always do my best.	1	2	3	4	5	6
52	I always accept the results of a game.	1	2	3	4	5	6
53	If I foul someone, I admit it.	1	2	3	4	5	6
54	I always abide by the referee's calls.	1	2	3	4	5	6
55	Even if I am losing, I don't foul an opponent.	1	2	3	4	5	6
56	Even if no one is watching, I don't cheat.	1	2	3	4	5	6
57	Whether I win or lose, I am always courteous.	1	2	3	4	5	6
58	Even when losing by a lot of points, I don't give up.	1	2	3	4	5	6
59	Whether I win or lose, I show good game manners.	1	2	3	4	5	6
60	Even if an opponent trash-talks me, I ignore it.	1	2	3	4	5	6
61	Even if I get mad during a game, I don't trash-talk.	1	2	3	4	5	6
62	Even if an opponent plays unfairly, I always show good game manners.	1	2	3	4	5	6

63	In order to win, I often cheat.	1	2	3	4	5	6
64	In order to win, there have been times when I've violated rules.	1	2	3	4	5	6
65	The shape of a basketball is a triangle.	1	2	3	4	5	6

Part IV: Perceived Motivation Climate

Directions: Give your reaction to the following statements in regards to how you usually or generally feel about the team you are on.

	On this team…	**Strongly Disagree**	**Disagree**	**Not Sure**	**Agree**	**Strongly Agree**
1	Players feel good when they do better than their teammates.	1	2	3	4	5
2	Trying hard is rewarded.	1	2	3	4	5
3	Players are punished when they make a mistake.	1	2	3	4	5
4	Coaches make sure players improve on skills they're not good at.	1	2	3	4	5
5	The focus is to improve each game.	1	2	3	4	5
6	Players are taken out of the game for mistakes.	1	2	3	4	5
7	Playing better than teammates is important.	1	2	3	4	5
8	Coaches give most of their attention to the "stars".	1	2	3	4	5
9	Doing better than others is important.	1	2	3	4	5
10	Players work hard because they want to learn more about the activities.	1	2	3	4	5
11	Coaches favor some players more than others.	1	2	3	4	5
12	Players are encouraged to outplay their teammates.	1	2	3	4	5
13	Players are encouraged to work on their weaknesses.	1	2	3	4	5
14	Everyone wants to be the high scorer.	1	2	3	4	5

15	Everyone feels that they have an important role on the team.	1	2	3	4	5
16	Coaches want us to try new skills.	1	2	3	4	5
17	Players like playing when the teams are evenly matched.	1	2	3	4	5
18	Only the top players "get noticed" by the coaches.	1	2	3	4	5
19	Most of the players get to play in the game.	1	2	3	4	5
20	Players are afraid to make mistakes.	1	2	3	4	5
21	Only a few players can be the stars.	1	2	3	4	5

Part V: Antisocial Moral Attitudes

Directions: Read each question and check the number that is closest to how you think.

		Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	It is OK to cheat if nobody knows.	1	2	3	4	5
2	I sometimes try to wind up the opposition.	1	2	3	4	5
3	I would cheat if I thought it would it help me win.	1	2	3	4	5
4	It is not against the rules to psyche people out so it’s OK to do.	1	2	3	4	5
5	If other people are cheating, I think I can too.	1	2	3	4	5
6	Sometimes I waste time to unsettle the opposition.	1	2	3	4	5

Part VI: Sportspersonship

Directions: For each of the following items, circle the number that best represents the extent to which the item corresponds to you with respect to the sport you are enrolled in.

Doesn't correspond to me at all 1	Corresponds to me a little 2	Corresponds to me partly 3	Corresponds to me a lot 4	Corresponds to me exactly 5

1	When I lose, I congratulate the opponent whoever he or she is.	1	2	3	4	5
2	I obey the referee.	1	2	3	4	5
3	In competition, I go all out even if I'm almost sure to lose.	1	2	3	4	5
4	I help the opponent get up after a fall.	1	2	3	4	5
5	I compete for personal honors, trophies, and medals.	1	2	3	4	5
6	After a defeat, I shake hands with the opponents' coach.	1	2	3	4	5
7	I respect the rules.	1	2	3	4	5
8	I don't give up even after making many mistakes.	1	2	3	4	5
9	If I can, I ask the referee to allow the opponent who has been unjustly disqualified to keep on playing.	1	2	3	4	5
10	I criticize what the coach makes me do.	1	2	3	4	5
11	After a competition, I congratulate the opponent for his good performance.	1	2	3	4	5
12	I really obey all rules of my sport.	1	2	3	4	5
13	I think about ways to improve my weaknesses.	1	2	3	4	5
14	When an opponent gets hurt, I ask the referee to stop the game so that he or she can get help.	1	2	3	4	5
15	After a competition, I use excuses for a bad performance.	1	2	3	4	5
16	After a win, I acknowledge the opponent's good work.	1	2	3	4	5
17	I respect the referee even when he or she is not good.	1	2	3	4	5
18	It is important to me to be present at all practices.	1	2	3	4	5
19	If I see that the opponent is unjustly penalized, I try to rectify the situation.	1	2	3	4	5
20	When my coach points out my mistakes after a competition, I refuse to admit that I made those mistakes.	1	2	3	4	5
21	Win or lose, I shake hands with the opponent after the game.	1	2	3	4	5

22	I respect an official's decision even if he or she is not the referee.	1	2	3	4	5
23	During practice, I go all out.	1	2	3	4	5
24	If by misfortune, an opponent forgets his or her equipment, I lend him my spare one.	1	2	3	4	5
25	If I make a mistake during a crucial time of the match, I get angry.	1	2	3	4	5

APPENDIX D

QUESTIONNAIRES (KOREAN VERSION)

다음의 질문들은 테스트를 목적으로 하지 않으며, 정답이나 오답이 없습니다. 여러분의 지도자들은 여러분이 표시한 대답을 볼 수 없습니다. 가능한 솔직하게 답변해 주시기 바랍니다.

Part I: Demographic Information (인적 사항)

1. 성별: 남 ( ) 여 ( )

2. 나이: (세)

3. 운동 종목: ( )

4. 운동 경력 (현재 연도 포함): (년)

5. 학년 (고등 · 대학교): (학년)

Part II: Perceived Caring Climate (케어링 분위기)

현재 여러분이 참여하고 운동 시간이나 시합 시즌을 바탕으로 하여 대답하여 주시기 바랍니다. 아래의 문항들을 자세히 읽고, 여러분의 팀이나 지도자에 대한 여러분의 느낌이나 생각을 가장 잘 나타내는 숫자에 표시해 주시기 바랍니다.

	우리 팀에서,	전혀 그렇지 않다	그렇지 않다	중간	그렇다	매우 그렇다
1	선수들은 인격적으로 존중 받는다.	1	2	3	4	5
2	지도자 (감독, 코치, 또는 선생님)들은 선수들을 존중한다.	1	2	3	4	5
3	지도자들은 선수들에게 친절하다.	1	2	3	4	5
4	지도자들은 선수들을 보살핀다.	1	2	3	4	5
5	선수들은 공평하게 대접 받는다고 느낀다.	1	2	3	4	5
6	지도자들은 선수들을 도와주려 한다	1	2	3	4	5
7	지도자들은 모든 선수들을 잘 알기를 원한다.	1	2	3	4	5
8	누구든 간에 팀 멤버간 사이가 좋다.	1	2	3	4	5

9	지도자들은 선수들 의견에 귀 기울인다.	1	2	3	4	5
10	지도자들은 선수들 자체를 인정해 준다.	1	2	3	4	5
11	선수들은 안정된 마음으로 지낸다.	1	2	3	4	5
12	선수들은 편안함을 느낀다.	1	2	3	4	5
13	선수들은 매일 환영 받는다.	1	2	3	4	5

Part III: Sport Character (스포츠 인성)

스포츠 인성은 운동 경기 상황에서 선수들이 마음속에서 느끼는 감정과 머리 속에서 판단하는 생각과 태도, 그리고 실제로 나타내는 행동들을 모두 포함합니다. 아래의 문항들은 스포츠 인성과 관련된 것들로, 스포츠 상황에서 일어나는 일들에 대해 여러분의 마음과 생각, 그리고 결정 과정을 통해 어떻게 행동을 나타내고 있는지에 대해 알아보고자 하는 것입니다. 실제로, 경기에서 여러분이 (1) Compassion; 다른 선수 (팀 동료 또는 상대 선수)에 대해 가지는 마음가짐, (2) Fairness; 운동 경기의 정정 당당함이나 공정성 또는 경기 규칙에 대해 가지고 있는 생각이나 태도, (3) Sportpersonship; 경기 승부에 관한 태도나 자세, 그리고 (4) Integrity; 실제 운동 경기에서 말이나 행동을 어떻게 하고 있는지에 대한 문항들을 자세히 읽고, 잘 구분하여 솔직하게 답변해주시기 바랍니다.

전혀 그렇지 않다 1	그렇지 않다 2	약간 그렇지 않다 3	약간 그렇다 4	그렇다 5	매우 그렇다 6

1	나는 경기에 참가하는 모든 선수들이 가치 있는 존재라고 생각한다.	1	2	3	4	5	6
2	나는 경기에 참가하는 모든 선수들이 서로 존중해야 한다고 생각한다.	1	2	3	4	5	6
3	나는 같이 경기하는 상대 선수는 존중할 필요가 없다고 생각한다.	1	2	3	4	5	6
4	상대 선수에게 욕을 하는 것은 상대 선수를 존중하지 않는 행위라고 생각한다.	1	2	3	4	5	6
5	같이 경기하던 상대 선수가 부상당하면 나는 마음이 좋지 않다.	1	2	3	4	5	6
6	다른 선수(팀 동료 또는 상대 선수 포함)를 무시하는 조롱이나 약 올리는 행위는 바람직하지 않다고 생각한다.	1	2	3	4	5	6
7	다른 선수들의 더 나은 경기 수행을 위해, 다른 선수들 (팀 동료 또는 상대 선수 포함)을 격려해주는 것이 필요하다고 느낀다.	1	2	3	4	5	6
8	경기 중에 상대 선수가 넘어지면 일으켜 줘야 한다고 생각한다.	1	2	3	4	5	6

9	나는 시합 중에 상대 선수에게 좋은 게임 매너를 보이는 것이 중요하다고 생각한다.	1	2	3	4	5	6
10	파울 후에 상대방에게 사과하는 것은 상대 선수를 존중하는 것이다.	1	2	3	4	5	6
11	경기 중 상대 선수가 부상당하면 경기를 잠시 지연해야 한다고 생각한다.	1	2	3	4	5	6
12	상대 선수에게 예의 바르게 인사하는 것은 상대 선수를 존중하는 것이라고 생각한다.	1	2	3	4	5	6
13	내가 시합에서 이기면, 나는 상대방을 위로하고 싶은 마음이 든다.	1	2	3	4	5	6
14	내가 시합에서 지더라도, 나는 승리한 상대방에게 진심으로 축하해주고 싶은 마음이 든다.	1	2	3	4	5	6
15	나는 나보다 잘하는 다른 선수 (팀 동료 또는 상대 선수)로부터 배울 게 있다고 여긴다.	1	2	3	4	5	6
16	모든 선수들은 항상 서로에게 예의를 지켜야 한다고 생각한다.	1	2	3	4	5	6
17	농구는 수영처럼 경기 중에 선수끼리 접촉이나 충돌이 없는 스포츠다.	1	2	3	4	5	6
18	모든 선수들에게 승리할 수 있는 기회는 동등하다고 생각한다.	1	2	3	4	5	6
19	심판 판정은 특정 선수나 팀에 편파적이지 않아야 한다고 생각한다.	1	2	3	4	5	6
20	선수들은 심판 판정을 인정해야 한다.	1	2	3	4	5	6
21	경기 규칙은 모든 선수들에게 동등하게 적용되어야 한다	1	2	3	4	5	6
22	모든 선수들은 경기 규칙을 따라야 한다고 생각한다.	1	2	3	4	5	6
23	큰 점수차로 지고 있을지라도, 선수들은 경기 규칙을 잘 지켜야 한다고 생각한다.	1	2	3	4	5	6
24	경기 규칙을 지키는 것은 이기는 것만큼 중요하다.	1	2	3	4	5	6
25	심판은 공정하게 판정해야 한다.	1	2	3	4	5	6
26	경기 규칙을 지키면서 경기하는 것이 시합에서 가장 중요하다고 생각한다.	1	2	3	4	5	6
27	선수들은 항상 정정당당하게 경기에 임해야 한다고 생각한다.	1	2	3	4	5	6
28	승리하기 위해, 경기 규칙을 위반하는 것은 괜찮다고 생각한다.	1	2	3	4	5	6
29	상대방이 정정당당한 플레이를 하지 않더라도, 나는 정정당당하게 게임 해야 한다고 생각한다.	1	2	3	4	5	6
30	나는 심판 판정이 항상 공정하게 이루어지고 있다고 생각한다.	1	2	3	4	5	6
31	선수들은 승부를 떠나 최선을 다해 경기에 임해야 한다.	1	2	3	4	5	6

32	경기가 끝나면, 선수들은 경기 결과에 승복해야 한다.	1	2	3	4	5	6
33	승리하기 위해, 상대 팀 선수를 다치게 하는 것은 괜찮다.	1	2	3	4	5	6
34	승패에 상관없이, 선수들은 좋은 경기 매너를 보여주어야 한다.	1	2	3	4	5	6
35	시합에서 졌을 때, 경기 결과에 승복하는 것은 중요하다.	1	2	3	4	5	6
36	나는 경기 후 승패에 관계없이, 항상 상대 선수와 인사 또는 악수한다.	1	2	3	4	5	6
37	경기에 크게 지고 있어도, 게임을 포기하지 않아야 한다.	1	2	3	4	5	6
38	승패에 상관없이, 선수들은 예의를 지켜야 한다.	1	2	3	4	5	6
39	시합에서 이기면, 나는 상대방을 위로하거나 격려한다.	1	2	3	4	5	6
40	시합에서 지면, 상대방을 진심으로 축하해준다.	1	2	3	4	5	6
41	지고 있으면, 짜증이나 화를 낸다.	1	2	3	4	5	6
42	축구공은 사각형 모양이다.	1	2	3	4	5	6
43	경기에서 이기기 위해, 나는 상대 선수에게 무례하게 대할 수 있다.	1	2	3	4	5	6
44	상대팀 선수를 조롱하거나 비아냥거리는 것은 괜찮다.	1	2	3	4	5	6
45	경기에서 이기기 위해, 일부러 반칙할 수 있다.	1	2	3	4	5	6
46	경기 중 화가 나면, 상대 팀 선수에게 욕하는 것은 괜찮다.	1	2	3	4	5	6
47	경기에서 지더라도, 다른 사람을 탓하거나 비난하지 말아야 한다.	1	2	3	4	5	6
48	다른 선수의 경기 수행에 방해가 되므로, 선수들이 일부러 떠들거나 시끄럽게 해서는 안 된다.	1	2	3	4	5	6
49	아무리 화가 날지라도, 나는 경기 규칙을 준수한다.	1	2	3	4	5	6
50	심판이나 코치와 상관없이, 나는 정정당당한 플레이를 한다.	1	2	3	4	5	6
51	승패에 상관없이, 나는 항상 최선을 다한다.	1	2	3	4	5	6
52	나는 항상 경기 결과에 승복한다.	1	2	3	4	5	6
53	파울을 범한 후, 나는 스스로 인정한다.	1	2	3	4	5	6
54	나는 항상 심판 판정을 따른다.	1	2	3	4	5	6
55	나는 지고 있는 상황에서도 상대 선수에게 거친 행동 (파울)을 하지 않는다.	1	2	3	4	5	6
56	다른 사람이 지켜보지 않을 지라도, 나는 속임수를 쓰지 않는다.	1	2	3	4	5	6
57	승패에 상관없이, 나는 항상 예의를 지킨다.	1	2	3	4	5	6

58	크게 지고 있어도, 나는 게임을 포기하지 않는다.	1	2	3	4	5	6
59	승패에 상관없이, 나는 좋은 경기 매너를 보여준다.	1	2	3	4	5	6
60	상대 선수가 나에게 험담이나 욕을 해도 개의치 않는다.	1	2	3	4	5	6
61	경기 중에 화가 나거나 열을 받더라도, 나는 상대선수에게 욕이나 험담을 하지 않는다.	1	2	3	4	5	6
62	상대 선수가 정정당당하게 경기에 임하지 않을지라도, 나는 항상 게임 매너를 지킨다.	1	2	3	4	5	6
63	경기에서 승리하기 위하여, 나는 종종 속이는 행위를 한다 (예: 몰래 하는 반칙이나 규칙 위반 또는 경기장 라인 속이기).	1	2	3	4	5	6
64	이기기 위해, 나는 경기 규칙을 위반한 적이 있다.	1	2	3	4	5	6
65	농구공 모양은 삼각형이다.	1	2	3	4	5	6

Part IV: Perceived Motivation Climate (동기적 분위기)

아래의 문항들은 여러분의 팀에 대한 여러분의 견해를 알아보고자 합니다. 문항들을 자세히 읽고, 여러분의 느낌이나 생각을 가장 잘 나타내는 숫자에 표시해 주시기 바랍니다.

	우리 팀에서,	전혀 그렇지 않다	그렇지 않다	중간	그렇다	매우 그렇다
1	다른 동료 선수들보다 더 뛰어난 기량을 보일 때, 선수들은 기분이 좋다.	1	2	3	4	5
2	열심히 노력하면 보상이 뒤따른다.	1	2	3	4	5
3	실수를 범하는 선수들은 혼난다.	1	2	3	4	5
4	지도자 (코치, 감독, 또는 선생님) 들은 선수들의 실력이 부족한 부분들에 대해 선수들이 기량을 향상시키도록 강조하신다.	1	2	3	4	5
5	우리의 초점은 각 경기를 통해 기량을 향상시키는 것이다.	1	2	3	4	5
6	실수를 많이 하는 선수들은 경기에서 제외된다.	1	2	3	4	5
7	팀 동료들보다 더 뛰어난 경기를 하는 것이 중요하다.	1	2	3	4	5
8	지도자들은 잘하는 선수 (스타 플레이어) 에게만 관심을 쏟는다.	1	2	3	4	5
9	다른 선수들보다 더 잘하는 것이 중요하다.	1	2	3	4	5

10	선수들은 자신의 종목에서 더 많은 것들을 배우고 익히기를 원하기 때문에 열심히 연습한다.	1	2	3	4	5
11	지도자들은 다른 선수들에 비해 총애하는 몇몇 선수들이 따로 있다.	1	2	3	4	5
12	선수들은 팀 동료 선수들에 비해 더 뛰어난 플레이를 하도록 주문을 받는다.	1	2	3	4	5
13	선수들은 약점을 보완하도록 격려 받는다.	1	2	3	4	5
14	선수들 모두가 주득점원 (핵심 멤버)이 되기를 원한다.	1	2	3	4	5
15	선수 개개인은 각자 중요한 역할을 지니고 있다고 선수들 모두가 느낀다.	1	2	3	4	5
16	지도자들은 우리에게 새로운 기술을 시도하기를 바란다.	1	2	3	4	5
17	선수들은 수준이 비슷한 팀들과 경기하는 것을 좋아한다.	1	2	3	4	5
18	지도자들은 오직 기량이 출중한 선수들만 주목한다.	1	2	3	4	5
19	선수들 대부분이 경기에서 뛸 수 있는 기회를 갖는다.	1	2	3	4	5
20	선수들은 실수할까 봐 걱정한다.	1	2	3	4	5
21	오직 몇몇 선수들만 스타플레이어가 될 수 있다.	1	2	3	4	5

Part V: Antisocial Moral Attitudes (도덕적 행동을 결정하는 태도)

아래의 문항들은 경기 중에 일어나는 일들에 대해 여러분의 생각과 결정을 알아보고자 하는 것입니다. 자세히 읽고, 솔직하게 답변해주시기 바랍니다.

		전혀 그렇지 않다	그렇지 않다	중간	그렇다	매우 그렇다
1	만약 아무도 모른다면, 몰래 하는 반칙이나 규칙 위반은 괜찮다.	1	2	3	4	5
2	나는 가끔씩 상대 선수에게 일부러 비아냥거리거나 욕한다.	1	2	3	4	5
3	내가 게임에 승리하는데 있어서 몰래 하는 반칙이나 규칙 위반이 도움이 된다고 생각되면, 나는 그렇게 한다.	1	2	3	4	5
4	상대방에게 위협적인 말이나 행동을 하는 것은 규칙에	1	2	3	4	5

	어긋나지 않으므로, 그렇게 하는 것은 괜찮다.					
5	만약 다른 사람이 속임수를 통한 반칙이나 규칙 위반을 한다면, 나도 할 수 있다고 생각한다.	1	2	3	4	5
6	경기 중에, 가끔씩 나는 상대방을 방해하는데 (혼란스럽게 하기 위해) 시간을 쓴다.	1	2	3	4	5

Part VI: Sportspersonship (스포츠맨십)

아래의 문항들은 시합이나 연습에 대한 여러분의 태도나 행동과 관련된 질문들입니다. 문항들을 자세히 읽고, 솔직하게 답변하여 주시기 바랍니다.

전혀 그렇지 않다 1	약간 그렇지 않다 2	어느 정도 그렇다 3	많이 그렇다 4	항상 그렇다 5

1	게임에서 질 때, 나는 상대 선수를 축하해준다.	1	2	3	4	5
2	나는 심판 판정에 따른다.	1	2	3	4	5
3	나는 승부가 완전히 기울어진 경기일지라도 최선을 다한다.	1	2	3	4	5
4	나는 상대 선수가 넘어졌을 때 일어나도록 도와준다.	1	2	3	4	5
5	나는 개인적인 영광이나, 트로피, 그리고 메달을 따기 위해 경기에 임한다.	1	2	3	4	5
6	경기에서 승리한 후, 나는 상대 팀 지도자에게 인사한다.	1	2	3	4	5
7	나는 규칙을 존중한다.	1	2	3	4	5
8	많은 실수를 했을지라도 나는 경기를 포기하지 않는다.	1	2	3	4	5
9	내가 할 수 있다면, 게임에서 불공정하게 플레이 하는 상대 선수를 계속해서 게임 할 수 있도록 심판에게 요청한다.	1	2	3	4	5
10	나는 지도자 (감독, 코치, 또는 선생님)가 나에게 지시하는 사항들에 대해 비판 (말대꾸) 한다.	1	2	3	4	5
11	경기 후에, 나는 상대의 훌륭한 플레이에 대해 축하해주고 인정해준다.	1	2	3	4	5
12	나는 정말로 내가 뛰는 경기의 모든 규칙을 지킨다.	1	2	3	4	5
13	나는 나의 약점들을 보완하는 방법들을 생각한다.	1	2	3	4	5

14	상대 선수가 부상을 당할 때, 나는 부상 당한 선수가 도움을 받을 수 있게 심판에게 게임을 중지하도록 요청한다.	1	2	3	4	5
15	게임이 끝난 후, 나는 저조한 경기력에 대해 변명을 한다.	1	2	3	4	5
16	내가 경기에서 승리했어도, 나는 상대 선수의 훌륭한 점에 대해 인정하고 칭찬한다.	1	2	3	4	5
17	심판이 불리한 판정을 하더라도, 나는 심판을 존중한다.	1	2	3	4	5
18	나는 모든 연습에 참여하는 것을 중요하게 여긴다.	1	2	3	4	5
19	상대 선수가 불합리하게 반칙하는 것을 알게 된다면, 나는 그 상황을 고치려고 노력한다.	1	2	3	4	5
20	경기가 끝난 뒤 지도자가 내 실수들을 지적할 때, 나는 내가 범했던 실수들을 인정하거나 받아들이지 않는다.	1	2	3	4	5
21	이겼든 졌든 간에, 나는 게임이 끝난 후에 상대 선수와 악수한다.	1	2	3	4	5
22	나는 심판 외의 다른 관계자들의 결정도 존중한다.	1	2	3	4	5
23	연습할 때, 나는 전력을 다한다.	1	2	3	4	5
24	상대 선수가 실수로 장비를 챙겨오지 못했을 때, 나는 내 여유분의 장비를 빌려준다.	1	2	3	4	5
25	내가 경기의 결정적인 순간에 실수하면, 나는 화가 난다.	1	2	3	4	5

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